



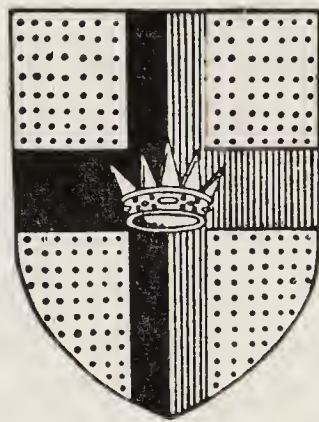
SARAWAK

MEDICAL AND HEALTH DEPARTMENT

ANNUAL REPORT

1966

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PART I

I. BACKGROUND INFORMATION

Sarawak occupies an area of about 47,500 square miles on the northwest coast of the island of Borneo. It lies between latitudes $0^{\circ} 50'$ and 5° North, and longitudes $109^{\circ} 36'$ and $115^{\circ} 40'$ East, and the territory occupies slightly less than a sixth of the island, which is the third largest in the world.

2. The climate is tropical with a heavy rainfall, a uniform temperature, and a high humidity. From early October until the middle of February the north-east monsoon brings heavy rainfall, especially in the coastal belt. The rainfall averages between 150 and 180 inches in most areas, and the mean annual rainfall at Kuching is 158 inches. There is, however, normally between three to seven hours of sunshine, depending on the season. On the whole, the climate is a pleasant and equable one, in spite of the tropical situation of the country. It is never cold, and although it can become moderately hot in the day-time the heat is only oppressive during periods of high humidity. The nights are generally cool. The temperature is uniform, varying between the mean maximum of 87.9°F and the mean minimum temperature of 72.5°F in 1959.

3. The total population at the census held in June, 1960 was 744,529. This showed an increase of 198,144 over the figure obtained at the previous census in 1947, i.e. an average annual increase of 15,242, during the thirteen years. Of the total population, 375,846 were males, and 368,683 females. The Sea Dayaks, with a population of 237,741, still form the largest single racial group, followed by the Chinese with 229,154, the Malays with 129,300, the Land Dayaks with 57,619 and the Melanaus with 44,661. Other indigenous races, totalled 38,931 and there were 1,631 Europeans.

4. Malays, Kedayans, and many Melanaus profess the Muslim faith. There are a number of Christian Missions at work in Sarawak—Anglican, Roman Catholic, Methodist, Evangelical and Seventh Day Adventist. There are also small communities of Hindus, Buddhists, and Bahais. The 1960 census revealed that there were 174,123 persons professing the Muslim faith, 117,755 professing to be Christians, and 452,651 of the other religious beliefs.

5. Sarawak is divided into five Divisions for administrative purposes and each Division, which is headed by a Resident, is divided into Districts, each in the charge of a District Officer. The 1960 census showed that the population of the five Divisions was as follows:—

First Division	247,954
Second Division	109,422
Third Division	261,487
Fourth Division	96,666
Fifth Division	29,000

The Annual Report on the Registration of Births and Deaths for the year 1965 showed that, at the end of 1965, the estimated figures for the five Divisions, corrected for births and deaths, but excluding immigration and emigration, were as follows:—

	<i>Males</i>	<i>Females</i>	<i>Total</i>
First Division	153,243	148,147	301,390
Second Division	60,738	60,468	121,206
Third Division	149,319	148,078	297,397
Fourth Division	56,853	52,159	109,012
Fifth Division	16,936	16,455	33,391
	<hr/>	<hr/>	<hr/>
	437,089	425,307	862,396
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Including the balance of immigrants over emigrants, the total population, as estimated on 31st December, 1965 was 862,396.

6. The control of local affairs in Sarawak is largely based on twenty-four fully elected District Councils which cover the whole of the State. They play an important part in the organisation of primary education and certain health services as well as other duties normally associated with local authorities.

The District Councils elect representatives to five Divisional Advisory Councils which act as electoral colleges for the State Legislature or Council Negri. The latter consists of thirty-six elected, three ex officio and three nominated members plus a Speaker. There is also an Executive Council known as Supreme Council consisting of the Chief Minister, five other ministers and three ex officio members. It is presided over by the Chief Minister.

Council Negri in turn elects twenty-four members to the Federal Legislature in Kuala Lumpur.

7. Of the total estimated area of 47,500 square miles about three-quarters is still covered by primary rain forest, and the remainder is mainly used for settled and shifting cultivation (six per cent and eighteen per cent respectively). Although Sarawak is basically an agricultural country, the soil is generally of low fertility, some parts being extremely acid in reaction, and over much of the accessible part of the country the inherent poverty of the soil has been accentuated by wasteful practices associated with the cultivation of dry padi. The shifting cultivation of hill padi, as normally practised, results in reduced fertility unless the ground is allowed to lie fallow for approximately fifteen years after each crop.

8. The main cash crops are rubber, pepper, sago and coconuts, and a considerable proportion of the general revenue of Sarawak is derived from the export duty levied on rubber and pepper. There are also large and important forest reserves, and timber production ranks after agriculture as the most important economic activity carried on in Sarawak. The principal minerals known to occur in Sarawak are bauxite, and oil which has been produced from the Miri oilfields for fifty-four years, but which is now decreasing in quantity, gold in

small quantities, and coal. The last named is known to occur in payable quantities, but so far, lack of communications has discouraged its exploitation. The new road from Kuching to Simanggang passes within reasonable distance of one known coalfield, and this may encourage its development.

9. The staple diet of the population is rice, but the actual production of rice in Sarawak is inadequate for its needs. Other food crops such as tapioca, maize, yams, and sweet potatoes are used to supplement rice in the rural areas. A noticeable feature of the agricultural economy is the small number of livestock, and the almost entire absence of mixed farming. The few small herds of cattle which exist are mainly confined to the sandy coastal area, although buffaloes are moderately plentiful in the Fifth Division. The only classes of livestock kept in significant numbers are pigs and poultry.

10. Sarawak is a relatively healthy country by tropical standards. Bilharziasis, yellow fever, louse-borne typhus, plague and relapsing fever are not encountered. In 1966, smallpox appeared for the first time for many years as a small outbreak affecting five persons and resulting in one death. However there was no recurrence of cholera during the year. Due to the poor standard of environmental sanitation, dysentery and the enteric diseases continued to occur in distressingly large numbers. Leprosy is prevalent also, and endemic goitre occurs in the interior.

11. The policy of the Government in the field of public health, as enunciated in 1960, is as follows:—

“Believing that good health is one of the most important assets of any community, it is the policy of Government to promote the health of all the people of Sarawak in so far as its financial resources will permit. This will be achieved by:

- (a) protecting the community against the common communicable diseases, by free protective vaccination and inoculation, and by such other methods as may be available from time to time;
- (b) educating the public in matters concerning the preservation of health and the avoidance of disease;
- (c) encouraging the establishment of maternal and child health services as a means of maintaining the health of mothers and children;
- (d) maintaining hospital and dispensary services for the effective treatment of the sick and injured;
- (e) advising district councils in their efforts to improve the sanitary and living conditions of the people;
- (f) providing a dental service complementary to the private practitioner service, with particular emphasis on the care of children.”

12. More emphasis is being placed, each year, on the preventive aspects of the work of the department. Mass health campaigns, such as the Malaria Eradication Project, the Tuberculosis Control Scheme, the Rural Health Improvement Scheme, the School Dental Service, and the campaign against Yaws, which was successfully completed in 1956, are already having a markedly beneficial effect on the general health of the population.

13. In the field of curative medicine, hospital and dispensary facilities throughout the country have been steadily improved over the past few years. There are now five main general hospitals situated at the Divisional Headquarters

at Kuching, Simanggang, Sibul, Miri and Limbang. There is also a forty-bed district hospital at Sarikei, Third Division and two twenty-five bed local hospitals at Lundu in the First Division and at Marudi in the Fourth Division. In addition to these Government institutions there is a fifty-six bed general hospital at Kapit, run by the Methodist Mission, and there are small Roman Catholic Mission hospitals, dealing mainly with maternity cases at Serian in the First Division, at Kanowit, Sarikei and Mukah in the Third Division, and at Long San in the Fourth Division. Other hospital institutions run by the Government Medical Department are the Rajah Charles Brooke Memorial Hospital and the Sarawak Mental Hospital both situated within the District of Kuching. There are 1,804 beds in Government General Hospitals and 143 in non-Government hospitals making a total of 1,947 general beds available for the population of 862,396. In addition there are 274 restbeds attached to the forty-two static dispensaries run by the Medical Department.

14. In addition to the thirty government doctors, there were thirty-eight private medical practitioners on the register in Sarawak at the end of the year, including Shell Oilfields doctors, Mission doctors, and a Peace Corps doctor.

15. There were nine Government dental officers and 130 private dentists on the register at the end of the year, but of the latter only three, including one employed by the Shell Oilfields Limited, possessed degrees or diplomas scheduled under the Dentists Registration Ordinance, the others being registered under a special provision of the Ordinance.

16. Outside Government Service, there were only two qualified pharmacists in Sarawak. One is attached to the Methodist Mission hospital at Kapit and the other works with the Apex Pharmacy in Kuching. One hundred and fourteen annual licences to sell poisons on a restricted basis were issued to business concerns during the year.

17. The number of midwives registered under the Midwives Ordinance was 474 of which 184 were in Central, and 290 in Local Government employment.

18. The total sum estimated for recurrent expenditure in the State of Sarawak by the Medical and Health Department during 1966 was \$10,991,893 which represents 5.8% of the total recurrent expenditure for the Ministry of Health. This sum compares with the actual recurrent expenditure during 1965 of \$9,056,443. In addition the sum of \$4,330,616 was provided from Federal Funds for Development Expenditure during the year, compared with \$2,855,496 in 1965, and the sum of \$269,055 for Capital Expenditure compared with the 1965 figure of \$296,295.

II. GENERAL REVIEW

19. The inauguration of Malaysia on September 16th, 1963, brought to an end the independent existence of the Sarawak Government Medical Department. Under the new constitution the Sarawak Medical Department became a unit of the Federal Medical Department of Malaysia. The effect of this change is that major policy decisions and the financing of the department are matters which become the direct responsibility of the Minister of Health in the Malaysian

Government. The routine administration of the department together with the preparation and presentation of policy proposals for consideration by the Minister, and the execution of policy once it has been decided, remain the responsibility of the Director of Medical Services, Sarawak.

20. Unfortunately, the establishment of Malaysia brought with it an eruption of trouble on the border between Sarawak and Indonesia, with the result that several thousand British and Malaysian troops had to be deployed through the State in order to preserve the boundaries of the territory and to protect that part of the population which lives in the border areas. These troops were involved in a certain number of minor actions against Indonesian-based bandits and the medical care of the casualties resulting from these actions and the normal daily wastage of sick amongst the troops placed a considerable strain on the hospitals in Kuching, Simanggang, and Sibul. In the latter half of 1966, there was a noticeable change for the better in relations between the Federation of Malaysia and the Republic of Indonesia. This led to the departure of British Forces from Sarawak, though Malaysian Forces still remain to combat any terrorist threat. The co-operation between the Service medical officers and medical orderlies and all members of the department continues to be excellent, and both in the hospitals and in the rural areas, even in the most remote kampongs, the Service medical personnel have been at pains to give whatever help they can do the department and, directly, to the local people. On several occasions Service helicopters have been made available for the evacuation of sick persons from longhouses to one or other of the major Government hospitals. Among the unfortunate results of the border troubles ends the necessity, for security purposes, to restrict movement in the border areas. This has seriously interfered with certain aspects of the Malaria Programme.

21. The 1964/1968 Development Plan was supported by funds amounting to \$343,071,341 out of which the sum of \$19,519,425 was for the Medical Department, which is 5.68 per cent of the total. In this plan high priority was given to projects which will benefit the rural areas particularly. Of course, the Rural Health Improvement Scheme, the Malaria Eradication and Tuberculosis Control Projects, the School Dental Service, and the large provision for rural treatment centres were of particular importance. The largest single item in the whole plan was the provision of \$13,500,000 for the construction of a new General Hospital for Sarawak in Kuching.

In 1966, it was decided that the Sarawak Development Plan 1964-1968 should be integrated into the First Malaysia Plan 1966-1970. This was done and the Medical Department has been given a sum of \$21,013,981 for various medical development projects in the State. Once again the emphasis is placed on the development of medical facilities in the rural areas. However the largest single item is still the new Sarawak General Hospital which will provide specialised treatment for patients from both the urban and rural areas of Sarawak. The total cost of the first phase of the hospital is now estimated to be \$17,786,294.

22. As mentioned already in paragraph 10, smallpox occurred in the State during the year. The epidemic was sporadic and carried with it a low mortality. Some details of the outbreak will be found later in this report.

23. Progress was maintained during the year with buildings. The contract for the new Sarawak General Hospital, Kuching was awarded to Messrs. San Development Co. Ltd. and construction work began early in the year. Work has continued in the planning and construction of two local hospitals at Bintulu and Lawas. New dispensaries, constructed according to the departmental standard plan, were also being built at Budu, Entabai, Ng. Ga'at and Batu Niah and a replacement dispensary planned for at Bau. A total of four low cost houses has been completed for the Rural Health Improvement Scheme, while work is continuing on another sixteen. During the year the Mental Health Unit at Miri was also completed, and also the first part of the expansion of the maternity unit at Sibu.

24. On the 25th April, 1965, three members of the department while on a routine visit to villages near the border with Kalimantan were abducted by Indonesian terrorists. The Federal Government secured the release of two of the officers towards the end of 1966. Unfortunately one officer was killed when attempting to escape, shortly after his abduction by the terrorists.

III. VISITORS

25. The department has continued to receive visits and advice from officials of various international agencies, particularly W.H.O. and U.N.I.C.E.F. We have also been privileged to welcome several members of the staff of malaria projects from countries in the Western Pacific Region, sent by W.H.O. to observe the progress of the Sarawak Project. The following visitors from W.H.O. and U.N.I.C.E.F. have been received:—

Dr. W. W. Yung	— W.H.O. Representative, Malaysia.
Miss Hilma Aittoniemi	— W.H.O. Public Health Nurse/Midwife.
Dr. (Miss) R. Estrada	— W.H.O. Public Health Doctor.
Dr. M. E. Farinaud	— W.H.O. Consultant in Malariology.
Mr. Yongyingsak	— W.H.O. UNICEF Bangkok.
Dr. D. R. Huggins	— W.H.O. Representative, Kuala Lumpur.
Dr. M. A. Farid	— W.H.O. Senior Regional Malaria Adviser.
Miss M. B. Armstrong	— W.H.O. Health Education Officer.

26. The following visitors were also received by the department during the year:—

Dr. P. J. Graham	— Area Medical Officer, Interior, Sabah.
Mr. K. H. Chan	— Brunei SMEP Chief Spraying Operation.
Mr. Y. S. Liang	— Taiwan Malaria Research Institute.
Mr. Henry Ch. Brandt	— Swiss Film Unit.
Dr. Daniel H. Thommen	— Swiss Film Unit.
Mr. Jean - Luc Nicollier	— Swiss Film Unit.
Mr. Jean - Marc Payot	— Swiss Film Unit.

Fourth Asian Medical Mission of Osaka University consisting of:—

Professor Shigeru Goto	—	Medical School of Osaka University.
Professor Tadayashu Ban	—	Medical School of Osaka University.
Doctor Taku Nomura	—	Medical School of Osaka University.
Doctor Junichi Fushimi	—	Medical School of Osaka University.
Doctor Kojiro Kurisu	—	Medical School of Osaka University.
Student Takashi Aoyama	—	Medical School of Osaka University.
Student Shimasuke Oki	—	Medical School of Osaka University.
Student Kanji Sugimoto	—	Medical School of Osaka University.
Student Seiichi Takasugi	—	Medical School of Osaka University.
Student Tadashi Matsumoto	—	Medical School of Osaka University.
Mr. F. H. McCluskey	—	Adviser to the Federal Ministry of Welfare Services on the Vocational Rehabilitation programme for the physically handicapped.
Mr. Geoffrey A. Myers, F.R.C.S.	—	Duchess of Kent Hospital, Sabah.
Mr. Anand Mohan	}	— Journalist.
Mrs. Mohan		
Mr. Jackson Burrows	—	President of the British Orthopaedic Association.
Enche Nawi b. Embong	—	Ministry of Health, Kuala Lumpur.
Miss Barbara Schofield, O.B.E.	—	Nursing Advisor to the Ministry of Overseas Development.
Mr. A. J. Gautrey	—	Advisor to the Central Govt. on Whitley Council matters.
Dato (Dr.) Mohd. Din b. Ahmad	—	Director of Medical Services/Permanent Secretary, Ministry of Health, Kuala Lumpur.
Y.M. Tunku Tan Sri Mohamed bin Tunku Besar Burhanuddin	—	Principal Establishment Officer, Malaysia.
Dr. J. M. Liston, C.M.G.	—	Medical Advisor, Ministry of Overseas Development.
Dr. C. J. Sundram	—	Principal, Dental Training School, Penang.

27. Several visits have also been paid by various senior officers of the Armed Forces.

IV. STAFF

28. The Senior staff of the department as on 31st December, 1966 was as follows:—

<i>Designation</i>	<i>Establishment</i>	<i>Actual</i>	<i>Remarks</i>
Director of Medical Services	1	1	Kuching.
Deputy Director of Medical Services	1	1	Kuching.
Assistant Director of Medical Services	1	—	Kuching.
Supernumerary Assistant Director of Medical Services	1	1	Kuching.

<i>Designation</i>					<i>Establishment</i>	<i>Actual</i>	<i>Remarks</i>
Medical Specialist	...	...	...	...	2	1	Kuching.
Ophthalmic Specialist	...	...	...	...	1	1	Kuching.
Surgeon	...	...	...	...	3	3	Kuching, Sibü, Miri.
Psychiatric Specialist	...	...	...	...	1	1	Kuching.
Specialist Pathologist	...	...	...	...	1	—	Kuching.
Senior Dental Officer	...	...	...	...	1	1	Kuching
Senior Medical Officer	...	...	...	...	3	3	Kuching (2), Miri.
Medical Officer	...	...	...	...	26	21	—
Dental Officer	...	...	...	...	8	7	—
Malariologist	...	...	...	...	1	—	—
Pharmaceutical Chemist	...	...	...	...	1	1	Kuching.
Superintendent	...	...	...	...	4	3	1 post filled up to May, 1966 only.
Radiographer	...	...	...	...	1	1	Kuching.
Principal Matron	...	...	...	...	1	1	Kuching.
Supernumerary Principal Matron	...	...	...	...	1	—	—
Matron, Grade I	...	...	...	...	2	2	Kuching.
Matron, Grade II	...	...	...	...	3	2	Kuching, Sibü.
Sister Tutor	...	...	...	...	4	3	—
Health Sister	...	...	...	...	4	4	—
Almoner	...	...	...	...	2	2	Kuching, Sibü.
Occupational Therapist	...	...	...	...	1	—	—
Laboratory Technologists	...	...	...	...	2	2	Kuching.
Psychiatric Social Worker	...	...	...	...	1	—	—
Nursing Sister	...	...	...	...	28	22	—
Physiotherapist	...	...	...	...	2	1	Kuching.
Charge Nurse	...	...	...	...	3	3	Kuching, Lundu, Sibü.
Hospital Administrator	...	...	...	...	3	3	Kuching.
Administrative Assistant	...	...	...	...	3	3	Kuching (2), Sibü.
Malaria Superintendent	...	...	...	...	3	3	Kuching, Sibü, Miri.

29. Seven medical officers were recruited during the year, and of these three are of local domicile. The scheme under which young doctors are recruited from the United Kingdom on six months contract has worked well, and the last doctor to be so recruited arrived in the State early during the year. At the end of the year, there were five vacant posts for medical officers, two of which arose because of the resignation of local doctors.

30. One dental officer of local domicile was recruited during the year, and there remained one vacancy unfilled at the end of the year. This section is now hard pressed especially in respect of the supervision of the expanding school dental service.

31. There have been heavy losses of senior nursing staff during the year. The Principal Matron, a Sister Tutor and six Nursing Sisters left the service. Since more local girls are qualifying from abroad as fully trained nurses, recruitment from this source has been satisfactory, although there were still 6 vacancies at the end of the year.

V. TRAINING

(a) Overseas

32. During the year 18 members of the Departmental Staff returned to duty, having completed the following courses overseas:—

<i>Course</i>	<i>Number</i>	<i>Where taken</i>
General Nursing	7	United Kingdom
Laboratory Technology	1	United Kingdom
Hospital Administration	1	United Kingdom
Nursing Administration	1	United Kingdom
Psychiatric Nursing	1	United Kingdom
Dental Nursing	4	Penang
Health Inspectors Course	2	Singapore
Health Visitors' Course	1	Singapore

33. In addition there were a further eighty four Government sponsored students and thirty-three serving officers undergoing training in medical or para-medical subjects at the end of the year, as shown in the following table, making a total of one hundred and seventeen in all:—

	<i>West Malaysia or Singapore</i>	<i>United Kingdom</i>	<i>Colombo Plan countries</i>	<i>Total</i>	<i>Serving Officers</i>
Medicine	5	2	30	37	0
Dentistry	7	—	4	11	0
Pharmacy	3	—	4	7	1
Dental Nursing	20	—	—	20	0
Dental Mechanic	1	—	—	1	1
Physiotherapy	—	2	—	2	0
Occupational Therapy	—	3	—	3	0
Social Science	2	—	1	3	0
Radiography	1	—	—	1	1
Medical Laboratory Technology	—	4	—	4	4
Psychiatric Nursing	1	5	—	6	6
General Nursing	—	17	—	17	17
Hospital Administration	—	1	—	1	1
Medical Stenography	—	1	—	1	1
Diploma in Dietetics	—	1	—	1	0
Diploma in Clinical Psychology	—	1	—	1	0
Artificial Limb Manufacture	1	—	—	1	1
Total	41	37	39	117	33

34. The number of private candidates studying General Nursing is 24 as compared to 17 Government sponsored candidates. It is the aim of the department to strive for full recognition of its local training course by the General Nursing

Council of the United Kingdom. At present locally trained candidates still have to study for an additional period of eighteen months in order to qualify for registration as State Registered Nurses.

35. The Colombo Plan Organisation has continued to be of great help to the department in providing scholarships for the training of staff of many categories. New Zealand, Australia, Canada, and the United Kingdom have all made valuable contributions in this respect. There has been a tendency more recently to send men and women to West Malaysia and Singapore for training although the number of Sarawak students in these two countries is less than those in the former countries.

36. The World Health Organisation provided the following Fellowships and Courses of training to two Malaria Superintendents of the Malaria Eradication Project. They attended a Malaria Eradication Training Course in Manila, Philippines.

37. The Director of Medical Services attended the 17th Session of the World Health Organisation Regional Committee for the Western Pacific in September 1966.

(b) Local

38. The training of staff has continued to be one of the most important functions of the department. During the year the following categories of staff passed qualifying examinations:—

<i>Category of staff</i>	<i>Course</i>	<i>Number</i>	<i>Length of course</i>
Trained Nurses	Midwifery	15	One year.
Student Nurses/Hospital Assistants	General Nursing	34	Three years and four months.
Student Nurse	Psychiatric Nursing	3	Three years and four months.
Pupil Midwives	Midwifery	15	Two years.
Student Health Inspectors	Health Inspectors' Course	1	Three years.
Student Dispensers	Hospital Dispensing	1	Three years.
Student Laboratory Technicians	Medical Laboratory Techniques	4	Three years.
Rural Health Supervisors	Rural Health	9	Nine months.
Microscopists	Malaria Microscopy	7	Three months.

39. At the end of the year the following staff were in training:—

Student Nurses and Hospital Assistants	103
Student Nurses (Psychiatry)	22
Trained Nurses undergoing midwifery training	35
Pupil Midwives	36
Student Health Inspectors	4
Student Dispensers	6
Student X-ray Technicians	2
Student Laboratory Technicians	2
Assistant Health Visitors	10

VI. DEPARTMENTAL AND DIVISIONAL ORGANISATION

40. The structure of the Medical and Health Services comprises a Headquarters Office in Kuching, Divisional Offices in the five divisions of the State, and other sectional organisations.

The Headquarters Office is staffed by the Director, Deputy Director, Assistant Director (Health), Principal Matron together with an office staff of 20 persons. The W.H.O. Malaria Advisory Team also has office accommodation in the Headquarters Office. In each Division there is a Divisional Medical Officer who is in administrative charge of all medical and health activities. In most cases he is assisted by a senior member of the health inspectorate, a health sister or health visitor, a malaria superintendent or malaria technician, and a complement of office staff. As regards other sectional organisations, each is under the charge of an officer who is directly responsible to the Director of Medical Services. These sections are the General Hospital in Kuching, the Dental section, the Central Pathological Laboratory, the Central Medical Store, the Mental Health section, the Leprosy section based at the Rajah Charles Brooke Memorial Hospital and the Ophthalmic section.

VII. PREVENTIVE AND SOCIAL MEDICINE

Public Health

41. The local authorities are responsible for the maintenance of satisfactory environmental hygiene within their respective areas, through their health inspectors. In an advisory capacity, the divisional medical officers are medical officers of health to the local authorities. A senior member of the government health inspectorate is also available in each division to advise and co-ordinate the activities of the health inspectorate of the various local authorities. Monthly or quarterly meetings of the health inspectorate were arranged in the First and Third Divisions. Five Peace Corps Volunteers have rendered valuable service especially in the rural areas.

42. The "Pit Latrines" project continued to make very good progress with a great number of house-holders requesting that squatting plates be supplied. Health education by Rural Health Supervisors of the Rural Health Improvement Scheme was obviously having an effect in the rural areas where they are operating. The Scheme now operates in parts of all five divisions of the State.

43. Protective immunisation against diphtheria, tetanus, tuberculosis and whooping cough continued to be provided in all Maternal and Child Health Clinics. Free vaccination against smallpox was also available at all government medical centres in the State. Vaccination against poliomyelitis using the Sabin oral vaccine was also provided. Inoculation against cholera was also given to persons travelling abroad. All persons proceeding to Mecca for the Pilgrimage also received inoculation against cholera and vaccination against smallpox.

44. The incidence of diphtheria in all divisions rose during the year with three hundred and thirty-five cases against ninety-nine for 1965. Mass Inoculation Campaigns carried out from time to time throughout the State have undoubtedly

kept the incidence of this disease at this comparatively low level, but the number was reduced owing to the necessity to carry out mass smallpox vaccinations in 1966.

Health Education

45. During the year health education has been intensified by the distribution of posters, pamphlets, circulars, talks and radio talks. The department has a stall for dissemination of health education at various fairs and regattas.

Maternal and Child Health Services

46. All the M.C.H. Clinics in the State are run by the Local Authorities, with the exception of one mobile road clinic which is staffed by Government midwives and which is based in Kuching. The training of midwives for local authorities remains the responsibility of the Medical Department.

Both Kuching Municipal Council and the Sibuan Urban District Council employ their own trained senior health staff to run the clinics and domiciliary midwifery service. The Kuching Municipal Council employs a medical officer to carry out part-time duties in the clinic at Sekama Road. The Central Clinic of this Council still occupies part of the premises of the Government Health Centre.

Certain medical supplies are provided free of charge to all M.C.H. clinics by the Medical Department. U.N.I.C.E.F. continues to give generous assistance by providing equipment for new clinics (including refrigerators), and kits for newly graduated midwives. This Organisation also provides large quantities of skimmed powdered milk for use in schools and clinics, and Vitamin A and D capsules.

The Divisional Health Sisters attached to the Divisional Medical Offices supervise the activities of all M.C.H. Clinics.

Rural Health Improvement Scheme

47. The Scheme continued to make good progress in the First Division where Rural Health Supervisors have been operating in the Bau and Serian districts. The second batch of trainees recruited from all five divisions completed their training in September 1966. Out of twelve trainees nine passed the course, but unfortunately three failed to reach the required standard.

48. Two rural health sub-centre/low cost quarters were completed at Melugu and Skrang in the Second Division. The building programme was delayed because many tenders were thought to be too high and were consequently re-tendered. There were also some difficulties in obtaining sites for the sub-centres. The trained Rural Health Supervisors are based in a sub-centre. They travelled constantly to other villages under their jurisdiction for follow-up activities. In all cases an excellent relationship is maintained between the villages and supervisors. Close liaison is also maintained with the agricultural extension workers and district council personnel.

49. U.N.I.C.E.F. has provided tool sets for trained supervisors and also various types of other equipment for the training school.

50. The Scheme is described in greater detail together with relevant statistics in Part II of this report.

VIII. EPIDEMIC AND ENDEMIC DISEASES

(a) Malaria

51. This activities of the Malaria Eradication Project continued to hampered by the security situation along the border and in certain other areas, although there was some relaxation of the restrictions on movement in the second half of the year. Spraying teams visiting the border kampongs still had to be provided with a military escort, and for certain remote villages the military authorities have very kindly provided helicopters to air-lift the personnel concerned and supplies required. Surveillance activities in other areas in the country continued to make good progress. Greater emphasis was laid on passive case detection, particularly in the consolidation and maintenance phase areas. Efforts were made to achieve complete and prompt application of remedial measures in various malaria foci.

52. During the year seven microscopists successfully completed a three month training course at the Central Malaria Laboratory. In the divisions, refresher training courses lasting two weeks were held for squad leaders and investigators. Two senior staff members attend short courses at the Malaria Eradication Training Centre in Manila.

53. The World Health Organisation and U.N.I.C.E.F. continued their generous assistance by providing experts and equipment for the project. Regional Advisers from W.H.O. and Representatives from U.N.I.C.E.F. paid several visits to Sarawak during the year.

54. The Project is described in greater technical detail, together with other relevant statistics, in Part II of this report.

(b) Tuberculosis

55. The activities of the Tuberculosis Control Project in the First and Third Divisions were confined to smaller urban areas and rural areas. In the Second and Fourth Divisions, work in the main population centres was completed and activities were being extended to smaller urban areas. Three Assistant Health Visitors from Fifth Division commenced work in Limbang during the year.

56. Sir Harry Wunderly, the Colombo Plan Consultant to the Project visited the State to give technical advice.

57. The Project is described in greater technical detail, together with relevant statistics, in Part II of this report.

(c) Cholera

58. No cases of cholera were reported during the year but continued vigilance was maintained and a number of outbreaks of diarrhoeal diseases were investigated bacteriologically.

(d) Smallpox

59. The first outbreak of smallpox for many years occurred in August and September 1966. There were a total of five cases, one of whom unfortunately died. The first patient came from a kampong close to the Sarawak/Kalimantan border.

A mass vaccination campaign was carried out and approximately seven hundred and fifty thousand people were vaccinated. One case occurred in Sibu, otherwise the outbreak was quickly and completely contained.

(e) Leprosy

60. The routine treatment of patients at the Rajah Charles Brooke Memorial Hospital is confined to the use of Sulphone (D.D.S.). Great care has been exercised in its use and the onset of the side-effects such as anaemia, hepatitis, dermatitis and psychosis are being closely watched.

61. The detailed work of the Rajah Charles Brooke Memorial Hospital during the year can be found in Section X, Special Hospitals.

(f) Endemic Goitre

62. Iodised salt for the prevention of endemic goitre has continued to be distributed throughout the Third Division from the Salt Iodisation Plant in Sibu. The completion of the new plant in Kuching was delayed because of the late arrival of machinery from abroad. It is hoped to have the Plant in operation early in 1967 for the distribution of iodised salt to First, Second and Fourth Divisions.

(g) Dysentery and Enteric Fever

63. There continues to be a distressingly large number of cases of dysentery and enteric fever, the result of poor or non-existent environmental sanitation facilities. During the year, 5,880 cases of dysentery and over 200 cases of typhoid fever were reported. It is anticipated that these figures will not be appreciably reduced in the near future. The Rural Health Improvement Scheme started in 1963, but covers only a small number of rural villages, and it will be many years before the benefits are noticeable.

(h) Trachoma

64. A total of 52 cases were reported compared with 64 cases in 1965. These figures plus those for the previous years emphasise the fact that this is not a public health problem of any size. Further details on the work of the Ophthalmic Section are given elsewhere in this report.

(i) Quarantinable Diseases

65. An outbreak of smallpox has been referred to above. No other quarantinable disease was reported during the year.

IX. HOSPITALS AND DISPENSARIES

(a) General Hospitals

66. The distribution of beds in the six Government General Hospitals in the State, as at 31st December, 1966 was as follows:—

	<i>General</i>	<i>Obstetrics</i>	<i>T.B.</i>	<i>Infectious</i>	<i>Mental</i>	<i>Total</i>
Kuching General Hospital	288	49	73*	10	—	420
Lau King Howe Hospital, Sibu	172	44	45	19	10	290
Simanggang General Hospital	67	16	24	—	—	107
Miri General Hospital	109	20	45	—	20	194
Limbang General Hospital	21	—	14	—	—	35
Sarikei General Hospital	40	—	—	—	—	40
	<hr/> 697	<hr/> 129	<hr/> 201	<hr/> 29	<hr/> 30	<hr/> 1086

*Including twenty beds in an annexe seven miles from Kuching.

67. In addition to the above, mission hospitals provide a further 143 beds, the majority of which are for obstetrics, although there is a small General Hospital of fifty six beds at Kapit in the Third Division run by the Methodist Mission, which provides X-ray and operating theatre facilities. The other mission hospitals, run by the Roman Catholic Mission are sited as follows:—

Serian	—	First Division	—	12 beds (maternity)
Sarikei	—	Third Division	—	10 beds (maternity)
Mukah	—	Third Division	—	5 beds (maternity)
Kanowit	—	Third Division	—	40 beds (general)
Long San	—	Fourth Division	—	16 beds (general)
				—
				83
				—

General Hospital, Kuching

68. This is the largest and oldest hospital in the State. It serves the whole of the First Division and a large section of the Second Division. The hospital provides the full facilities of a General Hospital, each unit in it being under direction of a specialist officer. It is the main training centre for nurses and midwives. As already mentioned in paragraph 23, work commenced on the construction of the new Sarawak General Hospital early in the year. In addition, extensions to the Nurses' Home were completed, and the Green House was occupied by student hospital assistants, after it had been renovated.

The Central Pathological Laboratory is situated in the compound of the General Hospital. It serves this hospital and also other hospitals in the State through the divisional laboratories. It is also the centre for the training of laboratory technicians.

69. The recreation ground of the staff situated in the General Hospital has been used regularly as a landing pad for military helicopters, evacuating both military and civilian patients. Ward 4 of the General Hospital is allocated to the Armed Forces who use their own medical officers and nursing staff, and provide their own food and drugs for the ward. A happy relationship with the medical and nursing staff of the Armed Forces has been maintained throughout the year.

70. The number of senior nursing staff in the hospital was maintained at a satisfactory level throughout the year. The number of staff who completed their training at the Nurses' Training School was also satisfactory. A qualified volunteer Occupational Therapist joined the Department during the year, and spends part of her time at the Sarawak Mental Hospital and Rajah Charles Brooke Memorial Hospital.

Lau King Howe Hospital, Sibul

71. This is the second largest general hospital in the State. Extensions to the Maternity Block commenced in August 1965 and the project was completed in April 1966.

72. The medical staff continued to work under stress throughout the year. There has been an increase in the volume of work and only three medical officers and one surgeon were available for the hospital. Senior and junior nursing staff were maintained at a satisfactory level throughout the year.

73. A Midwives Training School at this hospital which was established during the previous year has continued with the training of council midwives. However there are still accommodation problems for the trainees to be overcome.

Simanggang General Hospital

74. Some minor changes and improvements were made during the year. The medical staff situation remained unchanged compared to 1965 as only one medical officer was available for posting to the hospital who also acted as Divisional Medical Officer.

Miri General Hospital

75. Minor improvements were made to the hospital. There was a shortage of medical officers in the hospital during the year, which made it necessary for the Divisional Medical Officer to spend more of his time on clinical duties. He was therefore unable to tour his division as much as he would have liked to. The senior nursing staff situation was maintained at a satisfactory level throughout the year.

Limbang General Hospital

76. Only one medical officer was available for the hospital throughout the year, and he had to devote much of his time to divisional administrative and health work.

Sarikei General Hospital

77. The hospital had one medical officer throughout the year, whose duties of necessity involved him in a certain amount of administration.

Local Hospitals

78. A local hospital contains 25 beds, and there were two such hospitals functioning in the State in 1966, at Lundu and Marudi. Two more were under construction at Bintulu and Lawas at the end of the year. Because of shortage of staff no local hospital is manned as yet by a medical officer, the most senior officer being a charge nurse.

(b) Static and Travelling Dispensaries

79. There were 42 static dispensaries and 13 travelling dispensaries in operation at the end of the year. Four new static dispensaries were constructed as part of the development of medical services under the First Malaysia Plan. These dispensaries were sited at Skrang and Roban in the Second Division; at Tekajong in the Third Division; and at Long Lama in the Fourth Division. In addition a new sub-dispensary, manned by an "ulu" dresser, was built at Bareo in the Fourth Division. Towards the end of the year two new travelling dispensaries came into operation; one at Serian in the First Division and the other at Sarikei in the Third Division.

Attendances at dispensaries throughout the country continued to increase and further details are available in Part II of this report.

80. The number of restbeds in static dispensaries is now 267, the distribution of which is shown below:—

<i>First Division</i>	<i>No. of Restbeds</i>
Bau Dispensary	4
Serian Dispensary	10
Tebakang Dispensary	4
Nonok Dispensary	3
Simunjan Dispensary	10
Muara Tuang Dispensary	5
Siburan Dispensary	—
<i>Second Division</i>	
Lubok Antu Dispensary	6
Engkilili Dispensary	10
Lingga Dispensary	7
Sebuyau Dispensary	6
Betong Dispensary	12
Spaoh Dispensary	6
Debak Dispensary	2
Pusa Dispensary	12
Saratok Dispensary	12
Kabong Dispensary	10
Nanga Budu Dispensary	—
Pantu Dispensary	6
Skrang Dispensary	6
Roban Dispensary	5
<i>Third Division</i>	
Binatang Dispensary	12
Matu Dispensary	6
Dalat Dispensary	5
Mukah Dispensary	8
Balingian Dispensary	6
Daro Dispensary	6
Kanowit Dispensary	10
Julau Dispensary	14
Song Dispensary	8
Kapit Dispensary	7
Belaga Dispensary	8
Entabai Dispensary	—
Long Linau Dispensary	5
Tekajong Dispensary	10
<i>Fourth Division</i>	
Bintulu Dispensary	16
Bekenu Dispensary	10
Tatau Dispensary	6
Long Lama Dispensary	5

Fifth Division

Lawas Dispensary	10
Sundar Dispensary	4
Nanga Medamit Dispensary	10

Total	267
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(c) Ulu Dressers

81. All the ulu dressers in the country were absorbed into the Government establishment on January 1st, 1963. These men, selected from kampongs and longhouses, were given a short course of training in simple medical and surgical procedures and treatment, and paid a small salary. It was intended that they should work in the more remote rural areas where the services of the Medical Department were lacking. Unfortunately this scheme has not proved entirely successful, and it has been decided that it should gradually end. Consequently, there has been no further recruitment of ulu dressers during the year and those who have resigned for one reason to another have not been replaced.

82. The number of ulu dressers in service at the end of the year was twenty-seven, distributed as follows:—

First Division	6
Second Division	4
Third Division	4
Fourth Division	10
Fifth Division	3

(d) Home Helps

83. Home helps were introduced as a substitute for the unsuccessful ulu dresser scheme. Home helps are voluntary workers who have been selected by the headmen of villages or administrative officers. They receive a short course of training conducted by a senior hospital assistant, who is normally the divisional travelling supervisor of all static dispensaries, ulu dressers and home helps. On completion of training, home helps are supplied with a medical kit containing a simple scale of drugs and equipment, and their purpose is to give first aid and simple medical treatment to persons living in their own or neighbouring villages. Their supplies of medicine are replenished from the various Divisional Medical Stores through the static or travelling dispensaries. A good number of home helps have resigned to join the security forces. Replacement is no problem, however. The scheme as a whole has proved to be a success and there is increasing demand for the services of these volunteers, notably in the more remote areas of the country.

84. The number of Home Helps on the register at the end of the year was 334, distributed as follows:—

First Division	93
Second Division	49
Third Division	89
Fourth Division	69
Fifth Division	34

X. SPECIAL HOSPITALS

(a) Sarawak Mental Hospital

85. This hospital is situated seven miles from Kuching along the main trunk road to the Second Division. It has ward accommodation of various grades for 300 in-patients. Patients are admitted and treated in this hospital, for various types of mental illness. In addition cases from neighbouring Brunei are also accepted and occasionally referred cases come from Sabah. Regular out-patient facilities are available at the Sekama Road Clinic in Kuching. Senior staff members of the hospital travel to Sibuan, Sarikei and Miri regularly where psychiatric out-patient clinics are also held.

During the year, the hospital obtained the part-time services of a VSO Occupational Therapist.

86. Training continued as an important part of the work of this hospital, and at the end of the year, there were 21 students under training. Three female and three male nurses were undergoing training for the R.M.N. qualification in Great Britain, and one for the same qualification in Singapore.

87. In December, the new mental health unit in Miri was completed, and preparations went ahead to open the building and have it functioning in January, 1967.

88. During the year a research grant was received from the Foundation Fund for Research in Psychiatry at (Yale University) New Haven, Connecticut, U.S.A. The research will be carried out by the Psychiatric Specialist, in the form of incidence sample surveys of mental disorders in Sarawak, and will commence in 1967.

89. During the year trials have been carried out with a thymoleptic drug. The Morita Therapy was also introduced into the treatment of a limited number of cases.

(b) Rajah Charles Brooke Memorial Hospital

90. This hospital is situated 13 miles from Kuching along the Penrissen Road. It is the only centre in the region for the treatment of leprosy, and patients from Brunei and Sabah are also treated in this hospital. It has accommodation for 400 patients, most of whom live in cottages or barrack-type houses. There is ward accommodation for 73 patients, which is used mainly for patients suffering from a severe reaction, or for those undergoing surgical treatment. By the end of the year, 203 patients had been admitted compared to the 1965 figure of 271. The discharge rate has improved greatly due to the adoption of modern and effective methods of treatment.

91. The hospital is under the day to day charge of an Administrator, assisted by a complement of hospital assistants, assistant nurses and other ancillary staff, some of whom are patients. The medical work is supervised by a visiting medical officer from Kuching. A certain amount of surgical rehabilitation work for the crippled and deformed was also carried out. Simple physiotherapy was given by specially trained staff. A workshop is available for the preparation of artificial limbs, special shoes etc. which are hand-made. The hospital grounds have

vegetable gardens, pepper vines, rubber and fruit trees which have been planted and cared for by the patients. Wood carvings of a fairly high standard are also made by patients for sale to supplement their earnings.

92. The physiotherapy section complete with rest beds, diathermy section, and splinting and massage rooms has proved useful. A total of 224 patients received various forms of treatment in the unit during the year.

93. The Kuching Branch of the British Red Cross Society has continued to give much assistance by regular visits to the patients, and by distributing books and magazines. The Salvation Army Girls Home has, as usual, shown the greatest of kindness in looking after children born in the hospital, when the parents are undergoing treatment. Regular visits to the hospital have also been made by priests of the Anglican and Roman Catholic Missions which have been much appreciated.

XI. SPECIALISED SERVICES

(b) Ophthalmic Services

94. Out-patient attendances have increased again during the year. The total of new patients treated both at Kuching and in outstations rose by nearly four hundred compared with 1965. Due to the absence of the Ophthalmologist on leave for the first half of the year, fewer patients were admitted than in the previous year. There were 217 admissions compared with 324 in 1965. Similarly, fewer operations were performed, and total of 124 operations were carried out compared to 271 for 1965.

95. A significant event in the year was the addition of a trained ophthalmic sister to the staff of the Section. She returned with the diploma of ophthalmic nursing and is posted as Sister-in-Charge of the Eye Wards in the General Hospital at Kuching.

96. Visits to outstations were of a shorter duration owing to the greater volume of work in Kuching. However an increased willingness on the part of patients to come to Kuching for treatment was noted. Towards the end of the year, contact was established with the International Eye Bank in Ceylon with a view to carrying out keratoplasty in Kuching.

(b) Dental Services

97. The Senior Dental Officer reported a moderate increase in activities in keeping with the expansion of services during the year. The dental officer establishment was understaffed, with three vacancies unfilled throughout the year. The post of Superintendent Dental Officer was upgraded to Senior Dental Officer at the beginning of the year, one local dental officer resigned while another local officer joined the service. Two contract officers were also recruited during the year. Two V.S.O. dental officers also arrived and one such serving officer left the State during the year. These officers have proved most valuable in the expansion of the School Dental Service.

98. The School Dental Service continued to expand, and the main effort continued to be directed to building up a group of dentally fit students from primary schools. At the end of the year the distribution of school dental clinics stood as follows:—

Kuching	5	Clinics
Simanggang	1	„
Sibu	5	„
Sarikei	1	„
Miri	3	„
Lawas	1	„

99. Dental Officers continued to make outstation visits to provide dental care to people living in the rural areas. Efforts to improve dental health education continued in schools and government clinics, but due to heavy pressure of work little use has been made of mass media. The fluoridation of all new, fully-treated water supplies, was continued by the Public Works Department.

(c) Pathological Services

100. Medical laboratory facilities are available at the Central Medical Laboratory, which is situated in the grounds of the General Hospital, and at subsidiary laboratories located in the Health Centre, Kuching, the Sarawak Mental Hospital, and the Rajah Charles Brooke Memorial Hospital. Similar facilities of varying degree are also available in the divisional laboratories attached to the main hospitals at Simanggang, Sibu, Sarikei and Miri. The Central Medical Laboratory is under the charge of a medical officer who also exercises overall control of the subsidiary and divisional laboratories.

101. The Central Medical Laboratory also acts as a reference laboratory for the whole State. Work in the subsidiary laboratories is limited to investigations that are more or less routine, with the shunting back of other materials to the Central Medical Laboratory. The divisional laboratories serve the hospitals to which they are attached, and they are responsible for the day-to-day examination of a large number of specimens. Periodic checks are made to ensure that the standard of work carried out in these laboratories reaches the same standard as in the Central Laboratory by issuing known standard samples for examination. Close liaison with workers in the divisional laboratories is maintained by regular inspection tours by senior members of the Central Medical Laboratory.

102. The training of all technical staff is also carried out in the Central Medical Laboratory. Courses of training for student laboratory technicians last for three years, and consist of lectures and day-to-day bench training followed by examinations. Seven students are receiving such training at present. In addition, three trained laboratory technicians who had been awarded Government scholarships returned from the United Kingdom after obtaining the A.I.M.L.T. diploma. Trained laboratory technicians from subsidiary and divisional laboratories also receive refresher courses of training from time to time.

103. The blood transfusion service is run in Kuching jointly by the Kuching Division of the Sarawak Red Cross Society and the Central Laboratory. It has continued to function smoothly and has benefited greatly by the generosity of the large number of Commonwealth troops who have now left Kuching, and then from donations by members of the Malaysian Armed Forces.

DEVELOPMENT OF THE KUCHING BLOOD TRANSFUSION SERVICE (1959-1966)

YEAR	DONORS BY RACE					Total Donors All Races	RECIPIENTS BY RACE					Total Recipients All Races
	Eur	Ch	M	D	OT		Eur	Ch	M	D	OT	
1959	118	27	57	68	4	274	1	127	52	84	1	265
1960	264	67	105	145	9	572	4	294	138	128	3	567
1961	216	219	228	297	21	981	7	423	126	219	3	778
1962	228	260	273	193	37	991	18	489	144	173	15	839
1963	490	123	210	90	36	949	10	490	130	215	15	860
1964	665	274	399	185	35	1558	43	713	324	393	18	1491
1965	828	206	354	175	26	1589	134	666	285	359	35	1479
1966	769	184	444	148	46	1591	76	658	250	473	34	1491

104. The Central Laboratory has continued to run a Central Syringe Service throughout the year for the General Hospital, Kuching.

(d) X-ray Services

105. Diagnostic X-ray units are available in each of the main hospitals at Kuching, Simanggang, Sibü, Sarikei, Miri and Limbang, and also in the Health Centre, Kuching and Rajah Charles Brooke Memorial Hospital. The new Lundu Local Hospital already has a MOBILIX 60 X-ray machine and the Marudi Local Hospital received a similar machine during the year.

106. The existing units provide a wide range of diagnostic facilities. In the A.T.A.S. Chest Clinic in Kuching, and in the Chest Clinics in Sibü and Miri, there are also mass miniature cameras, those in Kuching and Sibü being 75 mm and the one at Miri, 100 mm.

107. Two student X-ray technicians sat for their final examination in July and passed.

(e) Physiotherapy Services

108. The services were previously confined mainly to the General Hospital, Kuching, with the Physiotherapist making regular visits to the Rajah Charles Brooke Memorial Hospital and the Home for the Blind for classes in massage manipulations. However during the year a permanent physiotherapy section was opened by a volunteer CUSO physiotherapist at the Lau King Howe Hospital, Sibü. The section at the Rajah Charles Brooke Memorial has been referred to already in paragraph 92 above.

109. Two students are undergoing courses of training in physiotherapy in the United Kingdom. One staff member is in Kuala Lumpur undergoing a course of training in the manufacture of artificial limbs, braces, etc. He is expected back in the State in 1967.

(f) Medical Stores Section

110. This section consists of the Central Medical Store at Kuching and Divisional Medical Stores at Simanggang, Sibü and Miri. It also includes the dispensaries of the General Hospital, Mental Hospital, and Health Centre in Kuching, and those in the Simanggang, Sibü, Sarikei, Miri and Limbang hospitals. The Central Medical Store comes under the direct supervision of the Pharmaceutical Chemist. He acts in a supervisory and advisory capacity in respect of other medical stores and dispensaries in the State, where trained dispensers are posted.

111. The Central Medical Store continues to handle the purchase, storage and distribution of drugs and equipment for the whole State, except in respect of supplies consigned direct to Sibü by the Crown Agents. However Sibü also draws substantial quantities of various types of drugs from the Central Medical Store, particularly locally manufactured tablets and other pharmaceuticals. One of the most important functions of the Central Store from the point of view of economy is the local manufacture of tablets and other pharmaceutical preparations in its manufacturing laboratories.

112. In the Central Store a serious shortage of storage space arising from the arrival of large quantities of U.N.I.C.E.F. and Colombo Plan supplies was experienced during the year. Plans for a new medical store and salt iodisation plant building for Sibü were still under consideration, having been delayed because of siting difficulties.

113. The post of Superintendent of Medical Stores was upgraded to Pharmaceutical Chemist at the beginning of the year. The post of pharmacist remained vacant throughout the year, but a volunteer V.S.O. pharmacist joined the department towards the end of the year. The training of dispensers continued at the Central Medical Store and two student dispensers were also sent to the Pharmaceutical Laboratories and Store for a course of training lasting six months.

(g) Almoner Section

114. There is only one trained hospital almoner with an assistant and they are both based at the General Hospital in Kuching. A student was attached for training prior to proceeding to the University of Singapore for a four year course in Social Studies. In addition two lady students are undergoing training as hospital almoners at the University of Singapore. It is intended to expand this service when these trainees qualify and return to the State.

115. During the year, 921 patients were referred to the section with various social problems, mainly related to financial embarrassment. Financial assistance involves the payment of bus and boat fares, the waiving of hospital charges,

and providing cash to buy food for needy families. Patients from the Rajah Charles Brooke Memorial Hospital and Sarawak Mental Hospital are also referred occasionally, and these cases normally involve adoption and placement of babies of patients, and relief for their families.

(h) Maternal and Child Health Services

116. Steady progress has been maintained in respect of maternal and child health. All M.C.H. Clinics are run by the Local Authorities, although the supervision of staff and clinics is carried out by Health Sisters or Health Visitors attached to the Divisional Medical Officers. Large urban Councils have their own health sisters who are in charge of the clinics and also the domiciliary midwifery service, under the supervision of the Divisional Medical Officer who acts as the Medical Officer of Health to the Council.

117. During the year one trained nurse was undergoing training in Singapore for the Royal Society of Health Certificate for Health Visitors. Fifteen midwives, including fourteen sponsored by various Local Authorities completed the course of training which lasts two years, and have returned to their own areas to practise as registered midwives. Another 67 midwives were still undergoing training in Kuching and Sibü at the end of the year, of whom 32 were student midwives (qualified nurses) training in Kuching, while the remaining 35 were pupil midwives training in Sibü.

XII. VOLUNTARY ORGANISATIONS

118. The Social Welfare Council which is financed by Government remains the central welfare agency for the control and distribution of Government funds for welfare work to various charitable organisations in the State.

119. During the year the Sarawak Branch of the Malaysian Red Cross Society continued its work of relief for the victims for fires and other disasters, the training of first aid workers, and the organisation of blood transfusion services in Kuching, Simanggang, Sibü and Miri. A transit hostel is maintained at Kuching for patients and their relatives requiring temporary accommodation in Kuching.

120. The Anti-Tuberculosis Association of Sarawak (A.T.A.S.) continued to show interest in the Tuberculosis Control Project. Voluntary workers in Kuching assisted in various ways such as the sorting and packaging of P.A.S. and I.N.H. tablets. All cases requiring food parcels or other assistance were investigated by an honorary almoner. Two long houses at Bintulu and Marudi in the Fourth Division maintained by the Miri Branch of A.T.A.S. have continued to provide accommodation for patients from rural areas who have come in for routine treatment.

121. The Salvation Army has continued its invaluable work in maintaining a home for boys and girls requiring care and attention, and also for the aged. The Girls Home also looks after babies born to parents suffering from leprosy, who are under treatment in the Rajah Charles Brooke Memorial Hospital.

122. The Sibu Benevolent Society maintains a Nursing Home in Sibu town, and an old persons home 'McCarthy Lodge' at Salim, up-river from Sibu. The Nursing Home is for aged men and chronic cases of tuberculosis. A medical officer from the Sibu Hospital visits it regularly. The Home at Salim accommodates old people of both sexes.

123. In Kuching, a Home for the Aged is run by the Social Welfare Council. It is situated some 12 miles from Kuching along the main trunk road to the Second Division. It has a hospital ward for 30 patients which is run with the help of the Roman Catholic nuns who live in the compound of the Home. The Divisional Medical Officer, First Division visits the Home regularly.

PART II

Introduction

In Part II of this Report will be found certain statistics which provide an indication of the work done in this department during 1966, and which will enable comparison to be made with the work of previous years. Statistical reports for the Sarawak Malaria Eradication Project, and the Tuberculosis Control Project, and the Rural Health Improvement Scheme are also included.

I. GENERAL HOSPITALS**(a) In-Patient Returns**

1. The following are the in-patient returns of all Government hospitals for 1966. These are compared with the previous four years:—

<i>Hospital</i>	<i>1962</i>	<i>1963</i>	<i>1964</i>	<i>1965</i>	<i>1966</i>
Kuching General	9,900	10,397	11,499	12,779	12,782
Lau King Howe, Sibu	7,525	8,677	10,439	9,249	8,153
Simanggang General	2,147	2,798	2,637	2,644	2,856
Miri General	3,447	3,660	3,446	3,813	4,280
Limbang General	517	579	648	619	841
Sarikei General	178	1,881	1,910	2,057	1,850
Marudi Local	—	—	—	151	914
Lundu Local	—	—	—	76	126
	<u>23,714</u>	<u>27,992</u>	<u>30,579</u>	<u>31,388</u>	<u>31,955</u>

N.B.—These figures include all maternity cases delivered in hospital.

2. There has therefore been an increase again in the total number of in-patients treated in hospitals, of 567 compared with the 1965 figure. This increase has been due completely to the large number of in-patients admitted to the Marudi Local Hospital.

(b) Out-Patient Returns

3. Out-patient returns for hospital out-patient departments are shown below. These are compared with the 1964 and 1965 returns:—

<i>Hospital Out-Patient Department</i>	<i>No. of New Patients Treated</i>			<i>No. of Minor Operations Performed</i>		
	<i>1964</i>	<i>1965</i>	<i>1966</i>	<i>1964</i>	<i>1965</i>	<i>1966</i>
Kuching:						
(a) Health Centre	22,241	26,099	28,475	1,894	2,574	3,162
(b) Senior Service Clinic	5,939	6,293	7,302	709	656	707
Sibu	58,125	45,125	60,907	2,463	556	1,004
Simanggang	22,672	21,585	24,355	229	751	301
Miri	19,028	21,102	25,456	2,439	2,439	886
Limbang	3,087	4,011	7,264	213	93	200
Sarikei	27,475	29,597	33,424	73	164	—
Marudi	—	3,434	22,108	—	—	—
Lundu	—	3,193	8,780	—	—	—
Total ...	<u>158,567</u>	<u>163,632</u>	<u>218,071</u>	<u>8,020</u>	<u>7,233</u>	<u>6,260</u>

4. There has been a noticeable increase in the amount of work done in the out-patient departments of hospitals compared with 1965, though the total number of minor operations performed has fallen.

(c) X-ray Services

5. A summary of the work done in the various X-ray departments, attached to hospitals and out-patient clinics, is given below:—

				<i>No. of Patients X-rayed</i>		
				<i>1964</i>	<i>1965</i>	<i>1966</i>
Kuching General Hospital	...	...	...	8,698	12,240	11,056
Chest Clinic, Kuching (Large)	...	...	...	43	5,399	—
Chest Clinic, Kuching (75 mm)	...	...	...	13,653	13,096	11,332
Lau King Howe Hospital, Sibü (Large)	...	...	...	10,663	9,177	8,035
Lau King Howe Hospital, Sibü (Miniature)	...	...	...	20,139	14,049	11,945
Simanggang Hospital	...	...	...	5,381	5,573	6,556
Miri General Hospital	...	...	...	5,575	7,935	5,874
Miri T.B. Hospital	...	...	...	3,926	5,584	3,582
Sarikei Hospital	...	...	...	1,955	2,491	3,175
Limbang General Hospital	...	...	...	1,972	2,476	4,497
Total				72,005	78,020	66,052

6. The very large number of miniature films taken in Sibü in 1964 was taken in the course of the Tuberculosis Control Project which was operating there in 1964. The figure for Kuching includes films taken for routine medical examinations.

7. Returns from the main general hospitals in the State show the variety of work done in the X-Ray departments of these hospitals:—

<i>Nature of Film</i>				<i>Number of Examinations</i>						<i>Total</i>
				<i>Kuching</i>	<i>Simanggang</i>	<i>Sibü</i>	<i>Sarikei</i>	<i>Miri*</i>	<i>Limbang</i>	
1. Chest	...	...	...	5,273	5,794	3,806	2,431	4,052	3,901	25,257
2. Bone	...	...	...	5,111	922	2,927	702	1,152	483	11,307
3. Gall Bladder	...	...	...	93	40	149	8	84	8	382
4. Genito-urinary	...	...	...	499	73	305	56	293	17	1,243
5. Gastro-intestinal	...	...	...	290	66	277	17	113	26	789
6. Abdomen (straight)	...	...	...	350	63	257	10	255	52	987
7. Obstetrical	...	...	...	114	40	192	13	95	0	454
8. Sinuses	...	...	...	43	19	79	0	150	0	291
9. Miscellaneous	...	...	...	42	18	22	6	388	0	476
Total				11,815	7,035	8,014	3,243	6,582	4,497	41,186

*Does not include 3,688 films taken in the tuberculosis annex of the Miri General Hospital.

In addition, a total of 2,249 films were taken in the local hospital at Marudi. The breakdown of figures for this hospital and the tuberculosis annex of the Miri General Hospital is as follows:—

<i>Nature of Film</i>	<i>Number of Examinations</i>		<i>Total</i>
	<i>Marudi Hospital</i>	<i>Miri T.B. Hospital</i>	
1. Chest	1,438	3,496	4,934
2. Bone	204	50	254
3. Gall Bladder ...	20	1	21
4. Genito-urinary ...	50	23	73
5. Gastro-intestinal ...	0	32	32
6. Abdomen (straight) ...	110	29	139
7. Obstetrical	10	2	12
8. Sinuses	7	1	8
9. Miscellaneous ...	410	54	464
Total ...	2,249	3,688	5,937

(d) Physiotherapy Service

8. The General Hospital, Kuching was the only hospital in the country that had an established Physiotherapy Department. However during the year a Physiotherapy Unit was opened in the Lau King Howe Hospital, Sibul, with the help of a Volunteer CUSO Physiotherapist.

9. Patients treated in the Physiotherapy Department during the year 1966:—

<i>In-Patients</i>	<i>Kuching</i>	<i>Sibu</i>
Number of treatments given	3,129	7,194
Electrical treatments	509	949
<i>Out-Patients</i>		
Number of treatments given	2,189	1,323
Electrical treatments	1,648	599
Total attendances at weekly Fracture Clinic ...	717	256

(e) Surgical Services

10. The number of operations performed on in-patients during the year in the various hospitals is shown below. These are compared with the four previous years:—

	<i>1962</i>	<i>1963</i>	<i>1964</i>	<i>1965</i>	<i>1966</i>
Kuching General Hospital ...	1,910	1,962	2,103	2,581	2,349
Lau King Howe Hospital, Sibul ...	3,581	3,297	3,183	3,139	3,071
Simanggang General Hospital ...	489	439	149	294	481
Miri General Hospital ...	3,601	726	2,894	2,970	1,093
Limbang General Hospital ...	78	55	51	106	332
Government Hospital, Sarikei ...	—	437	286	379	172
Total ...	9,659	6,916	8,666	9,469	7,498

11. A breakdown of the various categories of operation is shown below:—

				<i>General Surgery</i>		<i>Orthopaedic Surgery and Fractures</i>	
				<i>Major</i>	<i>Minor</i>	<i>Major</i>	<i>Minor</i>
Kuching General Hospital	...	...	...	578	1,172	125	474
Simanggang General Hospital	...	...	...	27	294	2	29
Lau King Howe Hospital, Sibul	...	...	...	618	1,980	109	364
Sarikei Hospital	...	...	...	12	105	3	52
Miri General Hospital	...	...	...	236	676	18	163
Limbang General Hospital	...	...	...	9	295	—	28
Total				1,480	4,522	257	1,110

12. There has not been any significant change in the types of surgical conditions treated in the various hospitals. Trauma still accounts for the greatest number of operations in each hospital and the second commonest cases are surgical emergencies such as acute appendicitis and perforated peptic ulcer.

(f) Obstetrical and Gynaecological Services

13. There was a noticeable rise in the number of deliveries in hospital during the year in spite of an expanding domiciliary midwifery service. It is the practice to discourage the admission of normal multiparae for delivery.

				1962	1963	1964	1965	1966
Kuching General Hospital	...	...	...	3,175	3,187	3,693	3,688	3,618
Lau King Howe Hospital, Sibul	...	...	...	1,029	1,419	1,383	1,372	1,397
Simanggang General Hospital	...	...	...	273	272	291	375	322
Miri General Hospital	...	...	...	564	590	651	630	813
Limbang General Hospital	...	...	...	22	38	55	13	38
Government Hospital, Sarikei	...	...	...	—	132	111	123	135
Total				5,063	5,638	6,184	6,201	6,323

14. The following table shows the number of maternal deaths in each hospital during the year, and a comparison is made with 1964 and 1965:—

				1964	1965	1966
Kuching	...	...	...	2	4	4
Sibul	...	...	...	4	9	7
Simanggang	...	...	...	4	5	5
Miri	...	...	...	2	0	2
Limbang	...	...	...	0	2	3
Sarikei	...	...	...	0	2	0
Total				12	22	21

This gives a maternal death rate of 3.32 per thousand for 1966 compared with 1.94 and 3.55 per thousand for 1964 and 1965 respectively. It should be remembered that a large proportion of the cases admitted to hospital for delivery

are abnormal, and that some are women in whom labour has been prolonged due to some abnormality and who have had to make difficult and obstetrically dangerous journeys to reach hospital.

15. The extent to which the hospitals catered for the obstetric abnormality is shown in the following table:—

	<i>Kuching</i>	<i>Sibu</i>	<i>S'ggang</i>	<i>Miri</i>	<i>Sarikei</i>	<i>Limbang</i>	<i>Total</i>
Caesarian Section	53	31	12	27	7	—	130
Forceps Delivery	60	63	4	14	6	4	151
Manual removal of placenta ...	64	80	8	10	17	4	183
Plural births	47	39	8	6	6	—	106
Post Partum haemorrhage ...	150	75	10	26	18	—	279
Toxaemias of pregnancy and the puerperium	124	74	—	36	11	3	248
Abortions	494	298	35	156	103	23	1,109
Stillbirths	98	50	8	31	9	—	196

16. Gynaecological surgery is a major activity in the divisional hospitals, the extent of which is indicated by the fact that in the General Hospital, Kuching, 276 major and 696 minor gynaecological operations were performed during the year.

(g) Ophthalmic Services

17. The Ophthalmologist is based on and has his central clinic in Kuching, although he also visits and holds clinics in the other divisions.

Eye Clinic, Kuching

	<i>1962</i>	<i>1963</i>	<i>1964</i>	<i>1965</i>	<i>1966</i>
New patients treated ...	3,887	4,777	5,146	5,710	6,328

18. Analysis of conditions treated by the Ophthalmologist in various clinics during 1966:—

	<i>Kuching</i>	<i>Sibu</i>
Refractive errors and muscle imbalance ...	1,081	56
Strabismus	13	2
Conjunctivitis excluding Trachoma	2,200	15
Trachoma	48	4
Other inflammatory and Degenerative Conditions	1,685	42
Trauma	559	4
Cataract	151	39
Glaucoma	27	4
Uveitis	25	1
Congenital and Hereditary	8	—
Neoplasia Benign	81	—
Neoplasia Malignant	—	—
Pterygium and Pinguecula	443	24
Xerophthalmia	4	—
Optic Atrophy	2	4
Diseases of C.N.S.	1	—
Others	—	—
Total New Patients	6,328	195
Spectacles prescribed	395	31

19. The causes of blindness in patients seen in the Kuching Eye Clinic were as follows:—

<i>Cause</i>				<i>Kuching</i>
Phthisis Bulbi	...	...	...	14
Glaucoma	...	...	...	2
Corneal Opacities	...	...	...	3
Optic Atrophy	...	...	...	3
Congenital Defects	...	...	...	1
Total				23

20. The age group of the twenty-three persons incurably blind seen in Kuching were:—

0 – 20 years	...	...	...	...	15
21 – 50 years	...	...	...	...	2
51 – over years	...	...	...	...	6

21. The number of eye operations performed during the year was as follows:—

<i>Operation</i>				<i>Kuching</i>	<i>Outstations</i>
Cataract Extraction	...	...	...	53	—
Glaucoma	...	...	...	3	—
Strabismus	...	...	...	3	—
Detached Retina	...	...	...	3	—
Needling	...	...	...	14	—
Major Trauma	...	...	...	6	—
Other intraocular	...	...	...	8	—
Various minor operations	...	...	...	20	10
Enucleations	...	...	...	4	—
Total				114	10

Major operations performed in Hospital	...	...	94
Minor operations performed in Hospital	...	...	20
Minor operations performed in Kuching Eye Clinic	...	680	

II. SPECIAL HOSPITALS

(a) Sarawak Mental Hospital

			1962	1963	1964	1965	1966
22. Total Admissions	...	...	545	577	630	580	722
New admissions	...	...	293	280	327	253	332
Re-admissions	...	...	252	297	303	327	390
New admissions suffering from							
Schizophrenia	...	...	132	129	141	107	164
Number of Discharges	...		542	581	586	596	682
Number of deaths in hospital	...		16	11	17	15	14

23. The diagnostic classification of new admissions in 1966 was as follows:—

<i>Diagnostic Group</i>	<i>Community</i>					<i>Total</i>	<i>Percentage</i>
	<i>Chinese</i>	<i>Malay</i>	<i>Sea Dayak</i>	<i>Land Dayak</i>	<i>Others</i>		
Schizophrenias	98	21	26	10	9	164	49
Affective Disorders	27	13	12	11	3	66	20
Organic Psychoses	8	3	2	6	2	21	6
Epilepsies	2	—	1	—	—	3	1
Neurological Disorders	7	2	1	1	1	12	4
Neuroses	16	11	4	1	3	35	11
Amentias	8	9	5	3	2	27	8
N.A.D.	1	—	—	2	1	4	1
Total	167	59	51	34	21	332	100
1st Admission % by race	51	18	15	10	6	100	
Racial % by population	31	16	32	8	13	100	

24. The percentage of voluntary and temporary admissions was approximately the same as in 1965.

Percentage of Voluntary Patients

1962	...	...	...	...	83
1963	...	...	...	...	84
1964	...	...	...	...	90
1965	...	...	...	...	94
1966	...	...	...	...	92

25. New Out-patients Registered:—

			<i>Kuching</i>	<i>Sibu</i>	<i>Miri</i>	<i>Total</i>
1962	...	...	264	160	—	424
1963	...	...	236	219	—	455
1964	...	...	155	107	—	262
1965	...	...	255	157	10	422
1966	...	...	276	170	23	469

26. Out-patient Attendances at all Out-patient Clinics:—

<i>Year</i>	<i>1962</i>	<i>1963</i>	<i>1964</i>	<i>1965</i>	<i>1966</i>
No.	3,871	4,315	4,869	6,035	6,600

Further details of the attendances in 1966 are as follows:—

<i>Clinic</i>	<i>Sekama Road Clinic, Kuching</i>	<i>Sarawak Mental Hospital</i>	<i>Lau King Howe Hospital</i>	<i>Sarikei Hospital</i>	<i>Miri Hospital</i>	<i>Total</i>
No. of attending patients	3,386	618	1,975	—	621	6,600

27. The racial and diagnostic distribution of new out-patients registered in 1966 is shown in the following table:—

<i>Diagnostic Group</i>	<i>Community</i>					<i>Total</i>	<i>Percentage</i>
	<i>Chinese</i>	<i>Malay</i>	<i>Sea Dayak</i>	<i>Land Dayak</i>	<i>Others</i>		
Schizophrenias	60	18	3	7	1	89	32
Affective Disorders	21	14	4	3	4	46	17
Organic Psychoses	8	6	—	—	—	14	5
Epilepsies	6	2	1	1	1	11	4
Neurological Disorders	7	2	2	1	—	12	4
Neuroses	44	12	7	1	9	73	26
Amentias	6	2	1	—	—	9	3
N.A.D.	15	1	3	3	—	22	8
Total	167	57	21	16	15	276	100
1st Admission % by race	60.5	21	7.5	6	5	100	
Racial % by population	31	16	32	8	13	100	

28. The following table summarises the work of the Section since 1957:—

<i>Year</i>	<i>Admissions to S.M.H.</i>	<i>Discharges from S.M.H.</i>	<i>Deaths in S.M.H.</i>	<i>New Out-patients in Kuching and Sibü</i>	<i>Total Out-patient attendances at Clinics</i>
1957	174	110	27	8	48
1958	195	120	34	19	88
1959	338	342	15	207	367
1960	429	405	24	209	1,743
1961	581	567	21	600	3,227
1962	544	542	16	424	3,871
1963	577	581	11	455	4,316
1964	630	586	17	262	4,869
1965	580	596	15	422	6,035
1966	723	682	14	276	6,600

(b) Rajah Charles Brooke Memorial Hospital (for Leprosy)

	1962	1963	1964	1965	1966
29. Number of Patients admitted ...	87	57	63	67	119
Number of Patients discharged	82	65	75	122	73
Number of deaths	12	6	10	6	3
Number of Patients in hospital on last day of the year ...	368	354	332	271	314

30. It has been the aim to maintain as high a discharge rate as possible. This is in keeping with the policy of the department which is to establish the domiciliary treatment of leprosy, using the hospital only for cases which react, or require surgical reconstruction and rehabilitation. The diminishing number of grossly deformed chronic cases who are unable to fend for themselves are also accommodated indefinitely in the leprosarium.

31. The following table shows the racial classification of patients in hospital at the end of 1966 including new admissions and discharges during the year:—

<i>Race</i>	<i>Patients in hospitals on 31.12.66</i>	<i>Admissions in 1966</i>	<i>Discharges in 1966</i>
Sea Dayak (Iban)	64	33	21
Land Dayak (Bidayuh)	10	6	1
Kayan Group (Kayan-Kenyah) ...	13	5	3
Other Sarawak Natives	3	—	—
Chinese	142	45	23
Malay—including Muslim Melanaus ...	45	17	18
Melanaus	6	3	1
Kadazan	4	5	3
Indonesian	27	4	3
Other	—	1	—
Total ...	314	119	73

32. The above figures may be classified by the Division or State, from where a patient has been admitted, as follows:—

DIVISIONAL CLASSIFICATION OF CASES ADMITTED DURING 1966

	<i>Division or State</i>							<i>Total</i>
	<i>First</i>	<i>Second</i>	<i>Third</i>	<i>Fourth</i>	<i>Fifth</i>	<i>Brunei</i>	<i>Sabah</i>	
Iban	3	13	14	3	—	—	—	33
Bidayuh	6	—	—	—	—	—	—	6
Kayan/Kenyah	—	—	1	4	—	—	—	5
Other Sarawak races	—	—	—	—	—	—	—	—
Chinese	23	3	5	8	—	2	4	45
Malay	5	1	5	2	—	2	2	17
Melanau	—	—	2	—	—	—	1	3
Kadazan	—	—	—	—	1	—	4	5
Indonesian	—	—	—	—	—	—	4	4
Philipino	—	—	—	—	—	—	1	1
Total ...	37	17	27	17	1	4	16	119
(Figures for 1965) ...	(11)	(7)	(21)	(5)	(—)	(5)	(18)	(67)

33. A similar classification may be applied to persons discharged, as follows:—

DIVISIONAL CLASSIFICATION OF CASES DISCHARGED DURING 1966

	<i>Division or State</i>							<i>Total</i>
	<i>First</i>	<i>Second</i>	<i>Third</i>	<i>Fourth</i>	<i>Fifth</i>	<i>Brunei</i>	<i>Sabah</i>	
Iban	2	8	6	5	—	—	—	21
Bidayuh	1	—	—	—	—	—	—	1
Kayan/Kenyah	—	—	—	2	—	—	1	3
Other Sarawak races	—	—	—	—	—	—	—	—
Chinese	8	2	7	2	—	1	3	23
Malay	1	2	3	8	—	—	4	18
Melanau	—	—	1	—	—	—	—	1
Kadazan	—	—	—	—	1	—	2	3
Indonesian	—	—	—	—	—	—	3	3
Total	12	12	17	17	1	1	13	73
(Figures for 1965) ...	(25)	(8)	(31)	(19)	(1)	(1)	(37)	(122)

34. The age-groups of patients admitted and discharged are shown in the following table:—

<i>Age Group</i>	<i>Admissions</i>		<i>Discharges</i>	
	<i>1965</i>	<i>1966</i>	<i>1965</i>	<i>1966</i>
5 — 9 years	2	—	2	—
10 — 19 years	7	10	10	2
20 — 29 years	22	21	21	22
30 — 39 years	11	25	28	18
40 — 49 years	8	30	25	16
50 — 59 years	7	21	27	7
60 — 69 years	8	10	7	7
Over 70 years	2	2	2	1
Total	67	119	122	73

35. With the services of a Physiotherapist available it was possible during 1966 to continue some reconstructive surgery, in addition to the usual amputations and bone excisions that an institution such as this requires. A total of fifteen major and sixteen minor operations were done in the hospital during the year.

III. STATIC AND TRAVELLING DISPENSARIES

36. Returns of new patients attending static and travelling dispensaries during the year, and admissions to rest-beds in the static dispensaries are shown below. There was a marked increase in the attendance at the dispensaries during the year, though the number of patients admitted to rest-beds was slightly less.

				<i>No. of Restbeds</i>		<i>New Patients</i>		<i>Admissions</i>	
						1965	1966	1965	1966
<i>First Division</i>									
1.	Bau Dispensary	...	...	4		29,287	30,739	53	4
2.	Serian Dispensary	...	...	10		23,364	25,350	74	43
3.	Tebakang Dispensary	...	...	4		18,460	18,457	81	88
4.	Nonok Dispensary	...	...	3		12,072	9,234	48	14
5.	Simunjan Dispensary	...	...	10		21,232	23,166	103	80
6.	Muara Tuang Dispensary	...	...	5		6,744	11,874	48	40
7.	Siburan Dispensary	...	...	—		12,561	12,985	23	—
<i>Second Division</i>									
8.	Pantu Dispensary	...	...	6		11,456	20,599	6	28
9.	Lubok Antu Dispensary	...	...	6		8,947	9,406	103	90
10.	Engkilili Dispensary	...	...	10		13,485	13,465	269	244
11.	Lingga Dispensary	...	...	7		9,289	9,321	71	72
12.	Sebuyau Dispensary	...	...	6		6,696	8,019	78	121
13.	Betong Dispensary	...	...	12		14,929	14,427	297	255
14.	Spaoh Dispensary	...	...	6		9,960	8,723	84	118
15.	Debak Dispensary	...	...	2		6,630	4,863	173	104
16.	Saratok Dispensary	...	...	12		18,021	22,758	307	346
17.	Kabong Dispensary	...	...	10		5,253	5,970	33	44
18.	Pusa Dispensary	...	...	12		7,418	6,308	37	31
19.	Skrang Dispensary	...	...	6		3,178	7,270	10	30
20.	*Roban Dispensary	...	...	5		—	1,120	—	5
21.	*Nangga Budu Dispensary	...	...	—		—	5,042	—	—
<i>Third Division</i>									
22.	Binatang Dispensary	...	...	12		30,874	18,164	62	2
23.	Matu Dispensary	...	...	6		8,868	11,233	17	31
24.	Dalat Dispensary	...	...	5		9,592	7,700	39	122
25.	Mukah Dispensary	...	...	8		8,288	10,478	103	169
26.	Balingian Dispensary	...	...	6		4,072	3,748	238	206
27.	Kanowit Dispensary	...	...	10		19,778	18,401	124	165
28.	Julau Dispensary	...	...	14		12,775	20,868	226	192
29.	Song Dispensary	...	...	8		15,298	14,434	158	302
30.	Kapit Dispensary	...	...	7		27,482	29,115	102	85
31.	Belaga Dispensary	...	...	8		11,614	11,178	182	202
32.	Daro Dispensary	...	...	6		6,942	5,938	49	36
33.	Long Linau Dispensary	...	...	5		1,313	4,713	22	22
34.	*Tekajong Dispensary	...	...	10		—	1,243	—	11
35.	*Nangga Entabai Dispensary	...	...	—		—	6,812	—	9
<i>Fourth Division</i>									
36.	Bintulu Dispensary	...	...	16		16,082	18,177	399	295
37.	Bekenu Dispensary	...	...	10		6,871	8,071	206	346
38.	Tatau Dispensary	...	...	6		—	11,823	—	129
39.	*Long Lama Dispensary	...	...	—		—	1,149	—	22
<i>Fifth Division</i>									
40.	Lawas Dispensary	...	...	10		12,231	15,512	159	164
41.	Sundar Dispensary	...	...	4		12,092	9,143	131	64
42.	Nangga Medamit Dispensary	...	...	10		693	2,836	9	37
Total				297		466,850	499,832	4,576	4,373

*This dispensary was opened during the year.

(b) Travelling Dispensaries

37. The returns for travelling dispensaries are as follows:—

		<i>No. of Patients Treated</i>	
<i>First Division</i>	<i>Base</i>	<i>1965</i>	<i>1966</i>
Travelling Dispensary No. 2	Kuching	11,549	16,037
Road Dispensary	Kuching	30,088	23,488
Serian Road	Kuching	—	20,468
<i>Second Division</i>			
Nil			
<i>Third Division</i>			
Travelling Dispensary No. 7	Sarikei	11,461	13,184
Travelling Dispensary No. 8	Kanowit	9,435	10,212
Travelling Dispensary No. 9	Kapit	11,253	8,157
Travelling Dispensary No. 17	Belaga	6,659	6,304
Mobile Sarikei Dispensary	Sarikei	—	15,601
<i>Fourth Division</i>			
Travelling Dispensary No. 11	Tatau	10,164	6,025
Travelling Dispensary No. 12	Bintulu	8,813	9,079
Travelling Dispensary No. 13	Niah	7,076	9,776
Travelling Dispensary No. 14	Marudi	7,035	8,368
<i>Fifth Division</i>			
Travelling Dispensary No. 16	Limbang	11,060	8,316
Total		124,593	155,015

IV. DENTAL SECTION STATISTICS

38. The total attendances at all the dental clinics were as follows:—

	<i>1964</i>	<i>1965</i>	<i>1966</i>
Kuching	43,000	34,061	32,426
Sibu	17,871	20,396	22,311
Miri	12,033	14,044	11,395
Simanggang	—	4,373	7,736
Limbang	—	827	7,307

39. An analysis of the service provided is shown below:—

	<i>Kuching</i>	<i>S'ggang</i>	<i>Sibu</i>	<i>Miri</i>	<i>Limbang</i>	<i>Total</i>
Dental Extractions	26,464	8,148	14,870	12,030	7,957	69,469
Fillings	17,589	3,170	12,649	5,900	4,172	43,480
Dentures	351	306	221	188	174	1,240
Repair of Dentures	195	31	57	7	14	304
Periodontal Treatment	4,602	733	4,065	1,215	589	11,204
X-rays	411	80	299	151	31	972
Orthodontic Appliances	23	3	2	—	1	29
Inlays and Bridges	10	—	6	—	—	16
Metal and Acrylic Splints	8	2	6	—	—	16
Crowns	13	12	17	—	1	43
Other Treatments	3,503	1,793	3,579	1,734	1,609	12,218
Topical Application of Stan- nous Fluoride	1,435	8	219	—	194	1,856

V. PATHOLOGICAL LABORATORY SERVICES

40. The following table gives a summary of the examinations carried out at each individual laboratory during 1966:—

Routine Investigations Carried Out (In-Patients)

		CL	SM	RCBM	SG	SIBU	SKEI	MIRI	LG	TOTAL
<i>Haematology:</i>										
Haemoglobin	...	12,901	854	478	3,248	6,547	1,278	8,524	1,026	34,856
Erythrocyte count	...	247	—	—	—	19	—	209	—	475
Leucocyte count	...	5,678	70	392	2,076	3,382	744	1,683	—	14,025
Differential count	...	4,961	70	152	2,069	3,365	697	1,384	—	12,698
Platelets	...	204	—	—	10	38	3	32	—	287
Reticulocytes	...	508	—	—	18	7	18	22	—	573
Bleeding time	...	73	—	—	14	60	5	56	—	208
Coagulation time	...	66	—	—	12	60	5	56	—	199
Prothrombin time	...	113	—	—	19	63	—	46	—	241
Osmotic Fragility	...	17	—	—	2	4	—	3	—	26
E.S.R.	...	2,343	728	—	442	769	20	489	—	4,791
Bone Marrow	...	29	—	—	—	16	—	9	—	54
1 min. Alkali Denaturation test	...	9	—	—	—	—	—	—	—	9
Alkaline phosphatase	...	1	—	—	—	—	—	—	—	1
Fl-Test for Hypofibrinogenaemia	...	3	—	—	—	—	—	—	—	3
Ham's test	...	—	—	—	—	—	—	1	—	1
Eosinophil count	...	8	—	—	—	—	—	—	—	8
Abnormal cell	...	1	—	—	—	—	—	—	—	1
Methaemoglobin	...	5	—	—	—	—	—	—	—	5
L.E. cells	...	49	—	—	—	4	—	—	—	53
<i>Serology:</i>										
Price precipitation reaction	...	10,019	—	—	1,226	3,204	1,210	1,742	—	17,401
No. positive	...	372	—	—	2	140	4	4	—	522
Widal test	...	534	—	—	204	584	129	186	—	1,637
No. positive	...	115	—	—	18	105	40	61	—	339
Weil-Felix test	...	183	—	—	11	100	15	12	—	321
No. positive	...	46	—	—	—	11	—	3	—	60
Direct Coombs' test	...	29	—	—	—	7	—	3	—	39
No. positive	...	1	—	—	—	—	—	1	—	2
Indirect Coombs' test	...	71	—	—	—	29	—	2	—	102
No. positive	...	20	—	—	—	22	—	—	—	42
Complement fixation test	...	435	—	—	—	—	—	—	—	435
No. positive	...	275	—	—	—	—	—	—	—	275
Paul Bunnell test	...	35	—	—	—	—	—	—	—	35
No. positive	...	1	—	—	—	—	—	—	—	1
Rose Waaler test	...	50	—	—	—	—	—	—	—	50
No. positive	...	11	—	—	—	—	—	—	—	11
Anti-streptolysin O	...	134	—	—	—	—	—	—	—	134
Pregnancy test	...	325	—	—	—	—	—	—	—	325
No. positive	...	34	—	—	—	—	—	—	—	34
Brucella abortus	...	10	—	—	—	—	—	—	—	10
Brucella melitensis	...	7	—	—	—	—	—	—	—	7
S.E.L.	...	73	—	—	—	—	—	—	—	73
V.D.R.L.	...	1,481	—	—	—	—	—	—	—	1,481
<i>Cerebro-spinal fluid:</i>										
Price precipitation reaction	...	33	—	—	1	46	4	40	—	124
No. positive	...	3	—	—	—	—	—	1	—	4
Mastic curve	...	28	—	—	—	15	1	21	—	65
No. positive	...	4	—	—	—	3	—	3	—	10

	<i>CL</i>	<i>SM</i>	<i>RCBM</i>	<i>SG</i>	<i>SIBU</i>	<i>SKEI</i>	<i>MIRI</i>	<i>LG</i>	<i>TOTAL</i>
<i>Blood Group Serology:</i>									
ABO Grouping ...	5,605	—	—	1,068	4,179	1,334	2,799	180	15,165
Rh Grouping ...	694	—	—	11	126	—	30	—	861
Compatibility tests ...	3,149	—	—	492	1,907	160	786	220	6,714
<i>Chemical Pathology:</i>									
<i>Blood:</i>									
Glucose tolerance ...	189	—	—	13	27	17	23	—	269
Glucose ...	437	—	—	50	180	163	103	—	933
Urea ...	1,624	—	—	87	411	150	729	—	3,001
Protein ...	649	—	—	93	259	16	169	—	1,186
Bilirubin ...	873	—	—	130	269	39	156	—	1,467
Thymol turbidity ...	434	—	—	70	239	—	109	—	852
Zinc sulphate turbidity ...	380	—	—	64	235	—	109	—	788
Bromsulphthalein ...	11	—	—	2	30	—	11	—	54
Cholesterol ...	256	—	—	13	67	33	77	—	446
Creatinine ...	3	—	—	—	—	—	—	—	3
Fibrinogen ...	—	—	—	—	—	—	1	—	1
Uric acid ...	50	—	—	4	43	—	36	—	133
Alkaline phosphatase	705	—	—	51	260	5	104	—	1,125
Acid phosphatase ...	36	—	—	4	7	—	20	—	67
Amylase ...	51	—	—	—	24	—	11	—	86
Calcium ...	57	—	—	8	31	—	8	—	104
Sodium ...	468	—	—	—	19	—	—	—	487
Potassium ...	470	—	—	—	18	—	—	—	488
Chloride ...	429	—	—	—	18	—	1	—	448
CO ₂ combining power	313	—	—	—	18	—	2	—	333
Inorganic phosphate	7	—	—	54	—	—	—	—	61
Transminase ...	843	—	—	—	94	—	122	—	1,059
<i>Urine:</i>									
Routine analyses inc. microscopy ...	4,415	774	354	2,065	2,857	867	4,407	570	16,309
Quantitative protein	2	—	—	3	—	—	312	—	317
Others ...	7	—	—	2	—	—	1	—	10
<i>Sacteriology:</i>									
<i>Bwabs:</i>									
Throat- ...	1,294	—	—	1,004	373	32	338	52	3,093
C. diphtheriae ...	15	—	—	—	7	1	19	—	42
Ear ...	903	—	—	21	57	—	98	—	1,079
C. diphtheriae ...	—	—	—	—	—	—	1	—	1
Nasal ...	42	—	—	7	7	1	23	—	80
C. diphtheriae ...	—	—	—	—	—	—	1	—	1
Eye ...	176	—	—	34	82	4	71	—	367
N. gonorrhoeae ...	5	—	—	2	4	—	1	—	12
Urethral ...	598	4	—	43	10	—	53	—	708
N. gonorrhoeae ...	250	2	—	11	2	—	29	—	294
Vaginal ...	520	—	—	56	173	10	150	—	909
N. gonorrhoeae ...	23	—	—	2	1	1	1	—	28
Abscesses, ulcers and wounds ...	597	—	—	124	126	4	274	—	1,125
M. tuberculosis ...	4	—	—	1	5	—	1	—	11
Sputum (pyogenic) ...	116	—	—	102	106	9	55	—	388
<i>Faeces:</i>									
... ..	2,612	—	—	429	1,175	—	554	56	4,826
Salm. typhi ...	17	—	—	6	6	—	9	—	38
Salmonellae (food poisoning) ...	20	—	—	4	4	—	—	—	28
Shigella flexner ...	115	—	—	7	55	—	6	—	183
Shigella sonnei ...	49	—	—	1	26	—	8	—	84
E. coli (entero-pathogenic) ...	84	—	—	6	8	—	—	—	98

	<i>CL</i>	<i>SM</i>	<i>RCBM</i>	<i>SG</i>	<i>SIBU</i>	<i>SKEI</i>	<i>MIRI</i>	<i>LG</i>	<i>TOTAL</i>
Miscellaneous:									
C.S.F. ...	404	—	—	33	221	21	147	—	826
Fractional test meals	26	—	—	60	43	10	131	—	270
Aspiration fluid ...	17	—	—	3	19	—	21	—	60
Seminal assays ...	12	—	—	—	82	—	—	—	94

Summary of Routine Laboratory Investigations, 1966 (In-Patient)

INVESTIGATIONS:

Haematology:

Haemoglobin ...	12,901	854	478	3,248	6,547	1,278	8,524	1,026	34,856
Cell count ...	10,886	140	544	4,145	6,766	1,441	3,276	—	27,198
Other tests ...	3,429	728	—	517	1,021	51	713	—	6,459

Blood Transfusion:

Blood Grouping ...	5,605	—	—	1,068	4,179	1,334	2,799	180	15,165
Compatibility tests ...	3,149	—	—	492	1,907	160	786	220	6,714

Serology:

Price precipitation reaction ...	10,019	—	—	1,226	3,206	1,210	1,742	—	17,401
Widal tests ...	534	—	—	204	284	129	186	—	1,637
Other tests ...	3,588	—	—	23	323	20	108	—	4,062

Chemical Pathology:

Urine tests ...	4,415	774	354	2,065	2,857	867	4,407	570	16,309
Blood tests ...	8,285	—	—	643	2,249	423	1,791	—	13,391
Other tests ...	7	—	—	2	—	—	1	—	10

Parasitology:

Blood smears ...	2,002	728	93	789	406	199	571	—	4,788
Faeces ...	721	4	—	71	452	63	345	—	1,656

Bacteriology:

Tuberculosis sputa ...	3,316	115	93	1,325	1,843	835	961	829	9,317
Swabs ...	4,250	4	—	1,392	939	60	1,062	108	7,815
Faeces ...	2,612	—	—	429	1,175	—	554	56	4,826
Urine ...	1,785	—	—	272	565	—	742	12	3,376
Blood culture ...	313	—	—	42	88	115	175	—	733
Scraping for leprae ...	9	—	2,130	10	6	—	24	4	2,183
Other tests ...	3,179	—	—	480	910	31	990	—	5,590

Legend: *CL*=Central Laboratory *SM*=Sarawak Mental Hospital
RCBM=Rajah Charles Brooke Memorial Hospital
SKEI=Sarikei Hospital *SG*=Simanggang Hospital
LG=Limbang Hospital

Return of Routine Laboratory Investigations 1966 (Out-Patient)

	<i>Health Centre</i>	<i>Simanggang</i>	<i>Sibu</i>	<i>Sarikei</i>	<i>Miri</i>	<i>Total</i>
HAEMATOLOGY:						
Haemoglobin	7,374	3,194	5,053	817	18,696
Erythrocyte count	13	—	6	—	19
Leucocyte count	1,751	1,178	545	316	4,096
Differential count	1,075	1,175	498	261	3,289
E.S.R.	409	57	439	4	1,084
PARASITOLOGY:						
Blood films—No. examined	5,636	6,137	176	332	12,591
Malaria— <i>P. falciparum</i>	5	35	1	—	41
<i>P. vivax</i>	11	46	1	—	60
<i>P. malariae</i>	—	4	—	—	4
Microfilariae	71	2	1	—	74
Faeces—No. examined	13,277	1,057	5,895	1,341	22,419
Protozoa— <i>E. histolytica</i>	122	65	56	42	319
<i>Bal. coli</i>	5	1	1	—	7
<i>G. lamblia</i>	89	34	45	4	172

				<i>Health Centre</i>	<i>Simanggang</i>	<i>Sibu</i>	<i>Sarikei</i>	<i>Miri</i>	<i>Total</i>
<i>Helminths:</i>									
Hookworm	...	...	...	1,063	110	852	620	124	2,769
Ascaria	...	...	...	3,074	338	978	238	134	4,762
Strongyloides	...	...	...	405	18	26	7	—	456
Trichuris	...	...	...	2,045	241	452	163	186	3,087
Oxyuris	...	...	...	40	1	11	9	—	61
Hymenolepsis	...	...	...	21	4	17	2	—	44
Occult blood	...	...	...	423	15	218	31	14	701
<i>Chemical Pathology:</i>									
Urine analyses	...	...	...	18,999	3,646	12,796	1,438	2,713	39,592
<i>Bacteriology:</i>									
Throat	...	...	...	29	—	—	—	—	29
Ear	...	...	...	2	—	—	—	—	2
Nasal	...	...	...	5	—	—	—	—	5
Eye	...	...	...	20	—	—	—	—	20
Urethral	...	...	...	133	99	310	118	52	712
N. gonorrhoeae	...	...	...	74	77	209	109	46	515
Vaginal	...	...	...	191	29	833	66	21	1,140
N. gonorrhoeae	...	...	...	1	4	45	19	—	69
Scrapings for M. leprae	...	...	...	24	4	8	—	9	45
Skin smears	...	...	...	210	27	55	—	34	326
Sputum and gastric lavage	...	...	...	4,024	1,823	6,255	711	3,144	15,957
No. positive	...	...	...	320	39	590	31	345	1,325

Summary of Routine Laboratory Investigations, 1966 (Out-Patient)

				<i>Health Centre</i>	<i>Simanggang</i>	<i>Sibu</i>	<i>Sarikei</i>	<i>Miri</i>	<i>Total</i>
<i>INVESTIGATIONS:</i>									
Haemoglobin	...	...	...	7,374	3,194	5,053	817	2,258	18,696
Cell counts	...	...	...	2,839	2,353	1,049	577	586	7,404
Other tests	...	...	...	409	57	439	4	175	1,084
<i>Chemical Pathology:</i>									
Urine	...	...	...	18,999	3,646	12,796	1,438	2,713	39,592
Other tests	...	...	...	—	—	—	—	—	—
<i>Parasitology:</i>									
Blood smears	...	...	...	5,636	6,137	176	332	310	12,591
Faeces	...	...	...	13,277	1,057	5,895	1,341	849	22,419
<i>Bacteriology:</i>									
Tuberculosis sputa	...	...	...	4,024	1,823	6,255	711	3,144	15,957
Swabs	...	...	...	380	128	1,143	184	73	1,852
Scrapings for M. leprae	...	...	...	24	4	8	—	9	45

41. The Central Laboratory in Kuching remains responsible for the preparation of nearly all culture media, reagents, stains and acid citrate dextrose solution for blood collection, which are used in the various laboratories and hospitals in the State. This ensures proper standardisation and checking of reagents and reduces the burden of preparation on the divisional laboratory staff to a very minimum, leaving them more time to devote to bench work. Crystalloid solutions and water for injection are also prepared in the Central Laboratory. The Central Laboratory also runs a Sterile Syringe Service which serves all the wards of the

Kuching General Hospital. The work of the preparation room is summarised as follows:—

(a) Intravenous crystalloid solution (500 ml. quantity) ...	5,870 bottles
(b) Acid-citrate Dextrose for blood collection	4,591 bottles
(c) Dextrose solution for oral administration	360 bottles
(d) Distilled water for injection	8,536 bottles
(e) Culture media (32 types)	712 litres
(f) Blood collection sets for serology tests	
(g) Syringes cleaned, assembled, sterilized and issued to wards.	9,600 sets
2 ml. syringes ... 159,400	10 ml. syringes ... 32,880
5 ml. syringes ... 38,880	20 ml. syringes ... 2,520

42. The Central Laboratory acting as a reference laboratory for problems arising in peripheral laboratories, checks and identifies in detail all intestinal pathogens and performs many tests which it is not possible or feasible to set up in the other laboratories. Increasing use is being made of these facilities offered in the Central Laboratory and this work, not recorded in the principal table above, is summarised here:—

Serology:

	<i>Kuching</i>	<i>S'ggang</i>	<i>Sibu</i>	<i>Miri</i>	<i>Sarikei</i>	<i>Total</i>
Widal	534	204	584	186	129	1,637
Brucellosis	9	—	—	1	—	10
Paul Bunnell	30	1	1	3	—	35
Rose Waaler	45	—	—	5	—	50
ASO titre	122	—	1	11	—	134
Sensitized erythrocyte lysis test	64	6	—	3	—	73

Bacteriology—Typing of bacterial cultures done in Central Laboratory for whole of Sarawak.

	<i>Kuching</i>	<i>S'ggang</i>	<i>Sibu</i>	<i>Miri</i>	<i>Total</i>
Salmonella (food poisoning) ...	20	4	4	—	28
Shigella flexner	98	7	50	—	155
E. Coli	80	6	8	—	94

43. The Blood Transfusion Service has continued to expand in general, throughout the State. The record of transfusions is as follows (figures in brackets are for 1965 given for comparison):—

	<i>Recipients</i>	<i>Donors</i>
Kuching	1,491 (1,479)	1,585 (1,589)
Simanggang	287 (132)	405 (156)
Sibu	689 (975)	1,059 (856)
Sarikei	109 (84)	109 (96)
Miri	377 (415)	406 (448)
Total ...	2,953 (3,085)	3,564 (3,145)

44. The number of specimens submitted for histo-pathological investigation showed a slight decrease compared with the 1965 figure. The decrease in the number of specimens submitted for exfoliative cytology examination was more marked. Relatively few post-mortem examinations are performed and the number

of histological examinations of tissues removed at autopsy is, therefore, quite small. Details of the work of the histo-pathological section follow (figures for 1965 are included in brackets for comparison):—

(a) *Surgical Pathology:*

<i>Hospital</i>					<i>No. of Specimens</i>	
Kuching	...	...	...	...	342	(361)
Health Centre, Kuching	...	...	...	...	11	(13)
Simanggang	...	...	...	...	48	(27)
Lau King Howe, Sibul	...	...	...	...	229	(233)
Sarikei	...	...	...	...	18	(3)
Miri	...	...	...	...	118	(109)
Limbang	...	...	...	...	3	(4)
Rajah Charles Brooke Memorial	...	...	...	...	—	( 3)
Christ Hospital, Kapit	...	...	...	...	42	(65)
Private practitioners	...	...	...	...	7	(7)
					818	(825)

(b) *Morbid Anatomy:*

					<i>No. of Specimens</i>	
Post-mortem dissections (Kuching only)					47	(49)
Post-mortem histology:						
Kuching	...	...	...	...	74	(65)
Simanggang	...	...	...	...	2	(—)
Sibu	...	...	...	...	1	(2)
Miri	...	...	...	...	10	(2)
Christ Hospital, Kapit	...	...	...	...	4	(1)
Serian	...	...	...	...	—	( 3)
					138	(122)

(c) *Exfoliative Cytology:*

Kuching	...	...	...	...	34	(87)
Health Centre, Kuching	...	...	...	...	1	(1)
Lau King Howe, Sibul	...	...	...	...	2	(1)
Sarawak Mental Hospital	...	...	...	...	—	( —)
Simanggang	...	...	...	...	4	(—)
Miri	...	...	...	...	1	(2)
Limbang	...	...	...	...	1	(—)
Christ Hospital, Kapit	...	...	...	...	1	(1)
Private practitioners	...	...	...	...	3	(—)
					47	(92)

VI. MATERNAL AND CHILD HEALTH SERVICES

45. The following figures gave some indication of the work done at some of the main Maternal and Child Health Centres in the State :

			<i>Child Health Attendances</i>	<i>Ante-natal Attendances</i>	<i>Post-natal Attendances</i>	<i>Total Attendances</i>
<i>First Division</i>						
Kuching	1960	...	65,735	33,818	5,127	104,180
	1961	...	71,604	37,699	6,019	115,322
	1962	...	83,042	50,877	7,920	141,849
	1963	...	72,639	44,361	7,618	124,618
	1964	...	74,951	50,241	8,651	133,843
	1965	...	87,981	51,655	8,768	148,404
	1966	...	100,876	58,503	11,540	170,919
<i>Second Division</i>						
Simanggang	1964	...	1,216	2,633	14	3,862
	1965	...	1,966	2,792	31	4,789
	1966	...	4,933	2,846	36	7,815
<i>Third Division</i>						
Sibu	1960	...	40,001	16,072	3,660	56,073
	1961	...	50,787	15,516	5,648	71,951
	1962	...	40,298	17,802	5,653	63,753
	1963	...	54,517	22,311	7,011	83,839
	1964	...	44,936	22,080	6,477	73,493
	1965	...	40,082	22,518	7,497	70,097
	1966	...	37,643	22,568	6,418	66,629
Sarikei	1960	...	3,586	4,409	510	8,505
	1961	...	8,025	4,565	578	13,168
	1962	...	7,541	6,530	688	14,759
	1963	...	5,084	6,260	519	11,863
	1964	...	4,839	6,933	521	12,293
	1965	...	5,931	6,242	617	12,790
	1966	...	12,179	7,620	869	20,668
<i>Fourth Division</i>						
Miri	1963	...	5,724	3,991	—*	9,715
	1964	...	9,719	5,087	490	15,296
	1965	...	10,230	5,187	713	16,130
	1966	...	13,479	9,085	1,161	23,725
<i>Fifth Division</i>						
Limbang	1964	...	222	284	144	650
	1965	...	208	344	143	695
	1966	...	1,193	1,297	128	2,618

*no record

As explained in paragraph 116 in Part I of this Report, the M.C.H. services are the responsibilities of Local Authorities in Sarawak.

VII. SPECIFIC PUBLIC HEALTH PROJECTS

A. MALARIA ERADICATION PROJECT

Introduction

46. The climatic conditions contributing to the presence of malaria in Sarawak are to be found in the opening chapter Part I of this Report, under the heading background information.

47. There is no obvious seasonal incidence of malaria and transmission can occur throughout the year. Prior to the commencement of the project it was known that the hilly areas were hyperendemic, while the low-lying plains and coastal areas, in the absence of nearby hills, were hypoendemic. This difference has been associated with the distribution of the main vector *A. leucosphyrus*.

48. With the ending of confrontation in the middle of the year, operations in border areas were facilitated and intensified. By the end of the year, some improvement in the general epidemiological situation was becoming apparent. The resumption of border trading across the border, however, tended to continue the importation of malaria from Kalimantan where few control measures were in operation.

49. The Malaria Eradication Project is administered from Medical Headquarters, with technical assistance provided by a team of three advisers from the World Health Organisation. Execution of the programme in the Divisions is the responsibility of each Divisional Medical Officer.

50. The number of staff engaged on the project remained at one hundred and eighty nine but some temporary workers were engaged to assist in the spraying of the many logging camps in the country, and focal areas where transmission occurred.

51. A training course for 12 investigators was held in Kuching, lasting eight weeks, and a refresher course for 13 squad leaders was also held in Miri during the year. One Medical Officer and two senior microscopists attended courses sponsored by W.H.O. in Manila, in Epidemiology and Malaria Parasitology respectively.

Operation Areas

52. As a result of the epidemiological picture, and the security conditions prevailing in the early part of the year, the State was divided into five operational areas as shown below:—

	Population	Area in Sq. km.
a1 Attack phase—former hyperendemic—border	71,963	26,068
a2 Attack phase—former hyperendemic—buffer	36,697	3,608
b Consolidation phase—former hyperendemic	320,187	61,143
c Maintenance phase—former hypoendemic ...	300,281	21,279
d Non-malarious urban	134,299	82
	<hr/> 863,427	<hr/> 125,203*

*The balance of 13,023 sq. km is considered uninhabited.

53. Over one third of the population of Sarawak is now classified as living in maintenance phase areas. In those areas no "indigenous" cases of malaria have occurred for three years in spite of intensive surveillance operations. Routine eradication measures have therefore ceased and vigilance against the re-introduction of malaria has been intensified.

54. The policy of giving protection to areas bordering on Kalimantan was continued, and as an additional safeguard, habitations in the contiguous area deeper into Sarawak were sprayed twice to try and prevent spread of transmission from the border regions.

55. The malaria eradication measures in operation in the various operational areas are shown in Table 1. In brief they consist of the following measures:—

- (a) Passive case detection throughout the State.
- (b) Active case detection, quarterly in *b* and *a2* areas, monthly to nomadic Penan in *a2* and *b* areas, and monthly to those living in temporary camps.
- (c) D.D.T. house spraying once yearly in *a1* areas and twice yearly in *a2* areas.
- (d) Remedial measures such as focal spraying, mass blood surveys, drug treatment and entomological and epidemiological investigations, wherever a malaria case or focus is detected. Monthly ACD is also carried out.

Residual Spraying

56. A summary of spraying operations, by Division, is shown in Table 2. A total population of 370,411 was directly protected by regular residual spraying during the year. A total of 61,710 houses and 12,169 huts was sprayed. 2,672 houses and 824 huts remained unsprayed due to pantangs or refusal or absence of the owners.

Entomology

57. The main entomological activity of the investigation teams in the divisions was the investigation of malaria cases and foci, and the follow-up after focal spraying. In addition they carried out monthly entomological assessment in five fixed stations in the attack phase areas and quarterly entomological vigilance in 19 fixed stations in the consolidation and maintenance phase areas. During the year they carried out a total of 173 investigations.

The team stationed at headquarters carried out fortnightly or monthly observations in five selected stations to study the biology of vectors. In addition they carried out an *A. leucosphyrus* survey in Ulu Baram and an *A. sundaicus* survey along the coastal areas of the 2nd and 3rd divisions. They also assisted the divisions in the investigations and remedial measures in serious malaria foci.

During the year, special attention was paid to *A. letifer* as a possible vector in the peat swamp plain areas, especially in connection with land development projects and the logging industry, where there were sporadic outbreaks of malaria and *A. letifer* was the predominant if not the only anopheline found. In 185 specimens dissected, two sporozoite infections were found which were however

shown to be of non-primate origin. About 50% out of 185 *A. letifer* collected at night around human dwellings for blood meal analysis, had human blood, showing the close contact of this species with man. Plans are under way to study the biology of this species in greater detail by the use of experimental huts.

Sufficient numbers of vector mosquitoes have not been encountered during the year to carry out a series of susceptibility tests. In one series of tests with *A. letifer* the LC50 was 0.36% DDT and LC100, 2% DDT. Smaller numbers exposed to elimination doses of DDT were all killed showing that all vector species are still susceptible to DDT.

Surveillance Results

58. Malaria case detection work is carried out in two ways; passive case detection by various government treatment centres such as hospitals, dispensaries, ulu dressers and "home helps" and certain voluntary agencies, and active case detection carried out by canvassers employed by the S.M.E.P. who are given an itinerary covering all the dwellings and houses in an area. In addition, there are special surveys and investigations. More than half of the cases of malaria detected in Sarawak in 1966 were picked up by Government passive case detection units. The contribution of the voluntary P.C.D. units, and of the active case detection units, was more limited.

59. Cases of malaria detected by the above case detection system are investigated by teams of malaria investigators who carry out epidemiological studies and also administer remedial drugs to all persons with positive blood slides.

60. A summary of surveillance operations and results during 1965 by phase and Divisions, is shown in Table 3. The Annual Parasite Incidence (A.P.I.) is also shown in this table.

61. The majority of cases of malaria originated in attack phase areas, and over 1,300 out of the total of 1,732 arose in First and Second Divisions where there is the heaviest trans border traffic.

62. Important foci of malaria transmission occurred during 1966 in the following places:

First Division	Tubih Kohan	—	connected with trans border traffic and a new road.
	Gunong Gadi	—	connected with security conditions.
Second Division	Skait Lukor	}	in logging camps.
	Skrang Geligan Lemanak		
		}	connected with movement of people between Skrang new village and their old village near the Kalimantan border.
Third Division	Pakan		
		—	not eliminated from 1965, due to re-lapsing cases.
Fourth Division	Loyang Long Miri Long Lewet	}	connected with nomadic Punan.
Fifth Division	Pa' Puti	—	connected with security conditions.

In some cases, the application of remedial measures has been either too slow or incomplete or both. Steps have been taken to avoid these dangers as far as possible.

63. From the above it will be seen that the problems facing the S.M.E.P. mainly originate in:—

- (i) the importation of malaria parasites from outside Sarawak, mainly from Kalimantan.
- (ii) movement of people across the border.
- (iii) Indonesian Kalimantan, resettlement projects, logging camps, etc.; and
- (iv) semi-nomadic Punans.

Although a larger number of cases was detected during 1966, the epidemiological situation remained under control, and towards the end of the year, a trend towards improvement was noted. However, the situation does not call for complacency and vigorous measures will be required to produce any further progress towards complete eradication of malaria from Sarawak. It is also well to remember that the people of Sarawak are no longer immune or semi immune to malaria: progress towards eradication is vital if damaging malaria outbreaks are to be avoided.

TABLE 1
MALARIA ERADICATION MEASURES, SARAWAK, 1966

Measures	OPERATION AREA				
	<i>a1</i>	<i>a2</i>	<i>b</i>	<i>c</i>	<i>d</i>
1. <i>Regular</i>					
1.1 Passive Case Detection	+	+	+	+	+
1.2 Active Case Detection quarterly	—	+	+	—	—
monthly	—	Penan	Penan	—	—
by spray teams	10%	—	immigrants	—	—
1.3 Regular Spraying	annually	six-	—	—	—
migrants	—	monthly	+	—	—
2. <i>Remedial</i>					
2.1 On detection of a Malaria Case					
	(Area within 2 miles designated as <i>f1</i> area)				
2.1.1 BF, C.5 and Rad. Tr. of the case	±	+	+	+	+
2.1.2 BF and Supp. Tr. to Case's Family	±	+	+	+	+
2.1.3 BF and Supp. Tr. in fl	—	10%	100%	20%	—
2.1.4 Ent. Inv. at Case's House	—	±	+	+	+
2.1.5 Immediate Focal Spray in fl	±	—	+	+	—
2.1.6 Focal Spray repeated Annually in fl	—	—	+	+	—
2.1.7 Intensified PCD in fl	—	±	+	+	—
2.1.8 Monthly ACD in fl	—	±	+	+	—
2.1.9 Monthly Follow up of case	—	±	+	+	+
2.2 Additional Measures for a Malaria Focus					
	(Area within 2 miles and other affected areas so designated).				
2.2.1 MBS (100%) and Supp. Treat six monthly	±	+	+	+	—
2.2.2 Focal Spray Twice a year	±	+	+	+	—
2.3 Additional Measures for a Serious Malaria Focus					
	(Area designated <i>f3</i> area)				
2.3.1 Mass Rad Tr. to positive Kampongs	±	+	+	+	—
2.3.2 MBS 100% and Supp. Tr. quarterly	±	±	+	+	—
20% BF and Supp. Tr. once	±	±	+	+	—
2.3.3 Spraying to focal area six monthly	±	±	+	+	—

+ = Obligatory;
BF = Blood film;

Supp. Tr. = Suppressive Treatment

± = Optional;
C.5 = Case investigation (forms)

MBS = Mass Blood Survey

— = No action;
Rad. Tr. = Radical Treatment

TABLE 2
SUMMARY OF SPRAYING OPERATIONS IN SARAWAK 1966

Division	Area	No. of Villages	Pop. Protected	Houses		Huts		No. of Workers	Man-hours		75% DDT used			Dosage TG-DDT gms/sqm
				Sprayed	Un-Sprayed	Sprayed	Un-sprayed		Worked	Travel	Total (Kgms)	Gms/ House	Gms/ Capita	
I	Border	259	55,278	9,116	558	2,822	11	14	5,984	2,511	3,510.0	385	63.5	1.91
	Others	257	71,708	11,392	487	825	7	19	7,022	1,529	4,505.5	395	62.8	2.09
	Subtotal	516	126,986	20,508	1,045	3,647	18	19	13,006	4,040	8,015.5	390	63.1	2.01
II	Border	277	30,300	5,388	312	946	146	9	1,760	1,645	2,118.6	393	69.9	2.02
	Others	462	57,434	9,744	693	1,680	259	14	3,359	3,070	3,777.9	388	65.8	1.98
	Subtotal	739	87,734	15,132	1,005	2,626	405	14	5,119	4,715	5,896.5	389	67.2	2.01
III	Border	103	13,096	1,995	23	246	58	12	809	620	635.8	319	48.5	1.66
	Others	822	74,512	13,130	315	2,070	305	17	4,887	6,500	4,433.4	338	59.5	1.75
	Subtotal	925	88,608	15,125	338	2,316	363	17	5,696	7,120	5,069.2	335	57.2	1.74
IV	Border	39	4,925	709	6	282	2	5	590	381	308.9	436	62.7	2.11
	Others	289	39,148	6,277	154	2,094	29	10	6,611	3,104	2,811.6	448	71.8	2.21
	Subtotal	328	44,073	6,986	160	2,376	31	10	7,201	3,485	3,120.5	446	70.8	2.20
V	Border	34	3,475	544	4	174	1	3	495	279	272.7	501	78.5	2.48
	Others	257	20,535	3,415	121	1,030	6	5	3,274	1,347	1,494.6	438	72.8	2.18
	Subtotal	291	24,010	3,959	125	1,204	7	5	3,769	1,626	1,767.3	447	73.6	2.22
Total	Border	712	107,074	17,752	902	4,470	218	43	9,638	5,436	6,846.0	386	63.9	1.94
	Others	2,087	263,337	43,958	1,770	7,699	606	65	25,153	15,550	17,023.0	387	64.6	1.99
	Subtotal	2,799	370,411	61,710	2,672	12,169	824	65	34,791	20,986	23,869.0	387	64.4	1.98

TABLE 3

SUMMARY OF SURVEILLANCE OPERATIONS BY PHASE AND DIVISIONS, SARAWAK 1966

	Total Sarawak	By Phase				By Division				
		Attack	Consoli- dation	Main- tenance	Urban	I	II	III	IV	V
<i>Summary:</i>										
Population ...	863,427	108,660	320,187	300,281	134,299	287,552	126,896	303,245	112,103	33,631
Slides examined ...	349,120	54,997	214,313	69,766	10,044	88,441	73,079	83,990	67,091	36,631
Slides positive ...	1,733	1,010	547	151	25	611	741	169	143	69
Annual Bl. Exam. Rate (%)	40.4	50.6	66.9	23.2	7.48	30.8	57.6	27.7	59.8	108.9
Annual Par. Incidence (%)	2.01	9.30	1.70	0.50	0.19	2.12	5.84	0.56	1.28	2.05
<i>Case Detection:</i>										
Passive C.D.—sl. ex. ...	101,543	19,003	28,389	44,315	9,836	28,026	25,283	28,267	14,150	5,357
sl. pos. ...	1,016	637	236	118	25	385	478	97	40	16
Active C.D.—sl. ex. ...	127,616	12,127	103,338	12,030	121	28,096	24,843	35,294	23,923	8,983
sl. pos. ...	165	48	114	3	0	37	59	29	25	16
Mass Bl. S.—sl. ex. ...	52,487	3,071	44,147	5,269	0	3,115	8,914	2,306	4,606	16,761
sl. pos. ...	79	3	75	1	0	0	9	13	43	14
Epid. S.—sl. ex. ...	45,167	10,169	28,255	6,741	2	20,376	9,656	9,690	2,293	2,788
sl. pos. ...	195	111	74	10	0	104	60	20	3	8
Follow-up—sl. ex. ...	8,209	1,540	5,953	652	64	3,282	1,242	1,174	1,612	839
sl. pos. ...	137	82	43	12	0	45	60	8	10	14
Special S.—sl. ex. ...	14,098	9,087	4,231	759	21	3,300	3,141	2,557	3,262	1,838
sl. pos. ...	141	129	5	7	0	41	75	2	22	1
<i>Cases by Parasite Species:</i>										
<i>P. vivax</i> ...	1,029	529	373	108	19	350	402	136	94	47
<i>P. falciparum</i> ...	556	396	119	37	4	230	299	4	17	6
<i>P. malariae</i> ...	123	65	53	5	0	20	28	28	31	16
Mixed infection ...	19VF 1VM 4FM,1VFM	15VF 1VM 3FM,1VFM	2VF	1FM	2VF	6VF 1VM 3FM,1VFM	11VF 1FM	1VF	1VF	0
<i>Cases by Age:</i>										
Below 1 year ...	7	4	2	1	0	1	3	0	2	1
1-4 years ...	185	93	86	6	0	71	30	24	36	24
5-14 years ...	586	354	204	28	0	261	177	70	57	21
15 years and over ...	955	559	255	116	25	278	531	75	48	23
<i>Cases by Origin of Infection</i>										
Indigenous ...	543	232	280	31	0	175	164	94	89	21
Relapsing ...	57	6	43	8	0	10	10	13	9	15
Imported from outside Sarawak ...	293	223	34	22	14	54	185	16	23	15
Imported from attack ph., Sarawak ...	89	22	27	34	6	60	23	3	3	0
Imported from other ph., Sarawak ...	65	1	32	31	1	17	22	19	3	4
Induced ...	0	0	0	0	0	0	0	0	0	0
Introduced ...	90	5	71	14	0	17	52	9	4	8
Unclassified ...	596	521	60	11	4	278	285	15	12	6

B. TUBERCULOSIS CONTROL PROJECT

I. General

64. This project has already been referred to in general terms in Part II, Section VIII—Epidemic and Endemic Diseases.

II. Statistics

65. The project, which was extended to the Second and Fourth Divisions of the State during 1964, has now begun to operate in rural areas in First and Third Divisions, and has started work in Limbang in the Fifth Division.

Tuberculosis Statistics — 1962 to 1966

	1962	1963	1964	1965	1966
1. <i>Population under control</i>					
(running total)	74,324	130,835	193,798	244,855	299,961
2. <i>Reservoir of infection</i>					
(1) Number on chemotherapy on December 31st	3,994	3,393	7,520	10,628	15,191
(2) Number of new cases diagnosed during the year	1,211	814	1,256	1,262	1,772
(3) Number whose treatment was completed during the year	380	1,087	1,220	1,113	1,157
3. <i>Tuberculin testing</i>					
(1) First tests:					
(i) Total number of tests carried out during the year	18,527	28,892	33,255	28,280	37,084
(ii) Total number of reactions under 10 mm. in diameter (negative reactors)	10,562	21,068	22,797	20,669	27,596
(iii) Total number of positive reactors ...	7,571	7,606	8,332	5,818	6,344
(iv) Total number not read for various reasons	394	218	1,126	1,793	3,144
(2) Retests:					
(i) Total number of tests carried out during the year	—	4,232	3,510	4,545	3,635
(ii) Total number of reactions under 10 mm. in diameter (negative reactors)	—	1,938	943	1,322	1,766
(iii) Total number of positive reactors ...	—	2,294	2,426	2,559	1,590
(iv) Total number not read for various reasons	—	—	142	664	279
4. <i>B.C.G. Vaccination</i>					
(1) Total number vaccinated for the first time	15,906	29,790	32,020	24,296	33,455
(2) Total number revaccinated	—	1,896	694	1,079	823
5. <i>X-ray examination</i>					
(1) Total number of miniature exposures	43,009	32,398	36,127	31,446	22,352
(2) Total number of large films used ...	5,137,	5,753	2,793	7,773	13,008
(3) Total number of persons X-rayed for the first time	34,910	26,721	17,700	20,943	15,307
6. <i>Microscopy</i>					
(1) Total number of sputa examined (including repeats)	19,135	28,938	16,915	19,950	22,257
(2) Total number of positive sputa found (including repeats)	1,203	1,603	1,311	1,750	1,959

	1962	1963	1964	1965	1966
7. <i>House to House survey</i>					
(1) Number of houses visited	3,445	3,904	6,541	9,013	7,962
(2) Population of houses visited	36,070	31,909	35,340	47,750	46,514
(3) Number of houses visited to trace contacts	117	93	479	577	229
(4) Number of contacts traced	1,116	595	870	1,865	1,174
(5) Number of contacts found positive ...	50	10	29	99	76

66. The following explanations are given to clarify the above figures:—

1. *Population under Control*

The figures are cumulative and the total to the end of 1966 is 299,961 persons.

The calculation for each year is obtained by first adding together the total number of persons falling into each of the following groups:—

(a) All positive reactors (first test).

(b) All those given B.C.G. (first vaccination).

(c) All those undergoing X-ray examination for the first time, less any positive reactors examined. The final figure is then obtained by adding the total for the previous year.

2. *Reservoir of infection*

The figures for those on chemotherapy include all cases diagnosed prior to the commencement of the project in an area, and actually under treatment. These old cases are automatically taken over as part of the activities of the project, when operations are extended to any new area. The figures cover all areas in which the project is operating.

3. *Tuberculin testing*

This has been subdivided into first test and retests. Retests are carried out on sample populations to assess the conversion rate after B.C.G. vaccination.

4. *B.C.G. vaccination*

These figures include the vaccination of all new-born infants in the areas covered by the project.

5. *X-ray examination*

This is a decrease in 1966 as compared to 1965 due to a larger proportion of the activities of project staff being in rural areas where X-ray examination is not available.

6. *Microscopy*

The figures do not include examinations carried out in the other laboratories which are not directly connected with the project, including many positive results. Thus positive smears for new cases diagnosed in an area, prior to the commencement of activities there by the project staff, are not included. This explains the apparent difference in figures between 2(2) and 6(2) in the above table.

7. *House-to-House Survey*

The density per house of population is much lower than that of the previous years. This is due to the peri-urban rural pattern of living where there is less crowding.

C. RURAL HEALTH IMPROVEMENT SCHEME

General

67. There are thirty-two Rural Health Supervisors in the country, deployed as follows:—

First Division	16
Second Division	6
Third Division	6
Fourth Division	2
Fifth Division	2

Most are based on one kampong with another 4 - 8 nearby to look after, but a small number are now based in new development scheme villages in order to keep a good standard of environmental hygiene in these villages.

68. The duties of a Rural Health Supervisor includes frequent visits to kampongs where he sets up kampong committees for control of sanitation. He undertakes health education on latrines, water supplies, sanitary, pig and poultry husbandry, refuse disposal, care of babies and personal hygiene. He suggests and discusses improvement suitable to the economics and geography of the kampongs concerned. He is usually well received and is progressively effecting necessary improvements. Medically, he is equipped with a combination of the Home Help and First Aid Kits and acts as malaria passive case detection unit. He liaises with personnel of the local council notably the health inspectors and midwives, with the home-helps, peace corps personnel and the Agricultural Extension Workers in the area. He is in constant contact with the hospital assistant of the static dispensary located in the area.

Training

69. On 30th September, 1966, nine supervisors passed out from the department's Rural Health Improvement Scheme School at Tarat, First Division, three trainees having failed to complete successfully examination held at the end of the theoretical training.

70. In December, 1966, ten trainees from all parts of the State were selected for training in 1967. They are: one from First Division, three from Second Division, three from Third Division, one from Fourth Division and two from Fifth Division.

The Training School comes under the supervision of the First Divisional Medical Organisation. A full-time training officer is stationed at Tarat who in addition to classroom teaching is also responsible for the day-to-day running of the school.

71. The posting of a sanitary engineer from WHO has enabled the training of rural health supervisors in water supply and construction work to be of a higher standard, and with considerable help from UNICEF, it is hoped to embark on a programme of small water supplies in rural villages in 1967.

**MORBIDITY RETURN FOR IN-PATIENTS TREATERS IN THE KUCHING,
SIMANGGANG, SIBU, SARIKEI, MIRI AND LIMBANG HOSPITALS**

International Classification of Diseases

(Intermediate List)

									<i>Cases</i>
A	1	Tuberculosis of respiratory system	...	...	...	...	...	...	1,030
A	2	Tuberculosis of meninges and central nervous system	...	...	...	...	...	...	36
A	3	Tuberculosis of intestines, peritoneum, and mesenteric glands	...	...	...	...	...	...	26
A	4	Tuberculosis of bones and joints	...	...	...	...	...	...	58
A	5	Tuberculosis, all other forms	...	...	...	...	...	...	69
A	6	Congenital syphilis	...	...	...	...	...	...	8
A	7	Early syphilis	...	...	...	...	...	...	9
A	8	Tabes dorsalis	...	...	...	...	...	...	4
A	9	General paralysis of the insane	...	...	...	...	...	...	4
A	10	All other syphilis	...	...	...	...	...	...	11
A	11	Gonococcal infection	...	...	...	...	...	...	12
A	12	Typhoid fever	...	...	...	...	...	...	220
A	13	Paratyphoid fever and other <i>Salmonella</i> infections	...	...	...	...	...	...	4
A	14	Cholera	...	...	...	...	...	...	5
A	15	Brucellosis (undulant fever)	...	...	...	...	...	...	—
A	16	Dysentery, all forms	...	...	...	...	...	...	652
A	17	Scarlet fever	...	...	...	...	...	...	—
A	18	Streptococcal sore throat	...	...	...	...	...	...	10
A	19	Erysipelas	...	...	...	...	...	...	12
A	20	Septicaemia and pyaemia	...	...	...	...	...	...	31
A	21	Diphtheria	...	...	...	...	...	...	44
A	22	Whooping cough	...	...	...	...	...	...	26
A	23	Meningococcal infections	...	...	...	...	...	...	28
A	24	Plague	...	...	...	...	...	...	24
A	25	Leprosy	...	...	...	...	...	...	19
A	26	Tetanus	...	...	...	...	...	...	26
A	27	Anthrax	...	...	...	...	...	...	3
A	28	Acute poliomyelitis	...	...	...	...	...	...	5
A	29	Acute infectious encephalitis	...	...	...	...	...	...	44

										<i>Cases</i>
A	30	Late effects of acute poliomyelitis and acute infectious encephalitis	...	...	...	...	...	...	...	39
A	31	Smallpox	...	...	...	...	...	...	...	7
A	32	Measles	...	...	...	...	...	...	...	40
A	33	Yellow fever	...	...	...	...	...	...	...	—
A	34	Infectious hepatitis	...	...	...	...	...	...	...	248
A	35	Rabies	...	...	...	...	...	...	...	—
A	36	Typhus and other rickettsial diseases	...	...	...	...	...	...	...	24
A	37	Malaria	...	...	...	...	...	...	...	85
A	38	Schistosomiasis	...	...	...	...	...	...	...	—
A	39	Hydatid disease	...	...	...	...	...	...	...	—
A	40	Filariasis	...	...	...	...	...	...	...	37
A	41	Ankylostomiasis	...	...	...	...	...	...	...	597
A	42	Other diseases due to helminths	...	...	...	...	...	...	...	1,687
A	43	All other diseases classified as infective and parasitic	...	...	...	...	...	...	...	677
A	44	Malignant neoplasm of buccal cavity and pharynx	...	...	...	...	...	...	...	45
A	45	Malignant neoplasm of oesophagus	...	...	...	...	...	...	...	11
A	46	Malignant neoplasm of stomach	...	...	...	...	...	...	...	80
A	47	Malignant neoplasm of intestine, except rectum	...	...	...	...	...	...	...	14
A	48	Malignant neoplasm of rectum	...	...	...	...	...	...	...	15
A	49	Malignant neoplasm of larynx	...	...	...	...	...	...	...	4
A	50	Malignant neoplasm of trachea, bronchus and lung, not specified as secondary	...	...	...	...	...	...	...	50
A	51	Malignant neoplasm of breast	...	...	...	...	...	...	...	12
A	52	Malignant neoplasm of cervix uteri	...	...	...	...	...	...	...	44
A	53	Malignant neoplasm of other and unspecified parts of uterus	...	...	...	...	...	...	...	9
A	54	Malignant neoplasm of prostate	...	...	...	...	...	...	...	4
A	55	Malignant neoplasm of skin	...	...	...	...	...	...	...	9
A	56	Malignant neoplasm of bone and connective tissue	...	...	...	...	...	...	...	56
A	57	Malignant neoplasm of all other and unspecified sites	...	...	...	...	...	...	...	97
A	58	Leukaemia and aleukaemia	...	...	...	...	...	...	...	26
A	59	Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	...	...	...	...	...	...	...	60
A	60	Benign neoplasm and neoplasms of unspecified nature	...	...	...	...	...	...	...	181
A	61	Non-toxic goitre	...	...	...	...	...	...	...	64

								<i>Cases</i>
A	62	Thyrotoxicosis with or without goitre	...	...	...	...	...	69
A	63	Diabetes mellitus	...	...	...	...	...	117
A	64	Avitaminosis and other deficiency states	...	...	...	...	...	151
A	65	Anaemias	...	...	...	...	...	389
A	66	Allergic disorders; all other endocrine, metabolic, and blood diseases	...	...	.....	...	...	469
A	67	Psychoses	...	...	...	...	...	162
A	68	Psychoneuroses and disorders of personality	...	...	...	...	...	184
A	69	Mental deficiency	...	...	...	...	...	27
A	70	Vascular lesions affecting central nervous system	...	...	...	...	...	220
A	71	Non-meningococcal meningitis	...	...	...	...	...	25
A	72	Multiple sclerosis	...	...	...	...	...	—
A	73	Epilepsy	...	...	...	...	...	35
A	74	Inflammatory diseases of eye	...	...	...	...	...	251
A	75	Cataract	...	...	...	...	...	92
A	76	Glaucoma	...	...	...	...	...	25
A	77	Otitis media and mastoiditis	...	...	...	...	...	51
A	78	All other diseases of the nervous system and sense organs	...	...	...	...	...	118
A	79	Rheumatic fever	...	...	...	...	...	69
A	80	Chronic rheumatic heart disease	...	...	...	...	...	103
A	81	Arteriosclerotic and degenerative heart disease	...	...	...	...	...	163
A	82	Other diseases of heart	...	...	...	...	...	150
A	83	Hypertension with heart disease	...	...	...	...	...	53
A	84	Hypertension without mention of heart	...	...	...	...	...	173
A	85	Disease of arteries	...	...	...	...	...	10
A	86	Other diseases of circulatory system	...	...	...	...	...	86
A	87	Acute upper respiratory infections	...	...	...	...	...	457
A	88	Influenza	...	...	...	...	...	45
A	89	Lobar pneumonia	...	...	...	...	...	142
A	90	Bronchopneumonia	...	...	...	...	...	509
A	91	Primary atypical, other, and unspecified pneumonia	...	...	...	...	...	102
A	92	Acute bronchitis	...	...	...	...	...	283
A	93	Bronchitis, chronic and unqualified	...	...	...	...	...	131

A	94	Hypertrophy of tonsils and adenoids	152
A	95	Empyema and abscess of lung	30
A	96	Pleurisy	23
A	97	All other respiratory diseases	260
A	98	Diseases of teeth and supporting structures	85
A	99	Ulcer of stomach	192
A	100	Ulcer of duodenum	307
A	101	Gastritis and duodenitis	287
A	102	Appendicitis	391
A	103	Intestinal obstruction and hernia	295
A	104	Gastro-enteritis and colitis, except diarrhoea of the newborn	1,412
A	105	Cirrhosis of liver	81
A	106	Cholelithiasis and cholecystitis	101
A	107	Other diseases of digestive system	409
A	108	Acute nephritis	104
A	109	Chronic, other, and unspecified nephritis	105
A	110	Infections of kidney	139
A	111	Calculi of urinary system	223
A	112	Hyperplasia of prostate	88
A	113	Diseases of breast	91
A	114	Other diseases of genito-urinary system	1,181
A	115	Sepsis of pregnancy, childbirth, and the puerperium ...	45
A	116	Toxaemias of pregnancy and the puerperium	337
A	117	Haemorrhage of pregnancy and childbirth	331
A	118	Abortion without sepsis or toxaemia	1,096
A	119	Abortion with sepsis	88
A	120	Other complications of pregnancy, childbirth, and the puerperium	949
A	121	Infections of skin and subcutaneous tissue	1,475
A	122	Arthritis and spondylitis	127
A	123	Muscular rheumatism and rheumatism unspecified	82
A	124	Osteomyelitis and periostitis	74
A	125	Ankylosis and acquired musculoskeletal deformities ...	21

								<i>Cases</i>
A	126	All other diseases of skin and musculoskeletal system	...	...	...	...	...	133
A	127	Spina bifida and meningocoele	...	...	...	...	...	1
A	128	Congenital malformations of circulatory system	...	...	...	...	...	25
A	129	All other congenital malformations	...	...	...	...	...	148
A	130	Birth injuries	...	...	...	...	...	8
A	131	Postnatal asphyxia and atelectasis	...	...	...	...	...	21
A	132	Infections of the newborn	...	...	...	...	...	36
A	133	Haemolytic disease of the newborn	...	...	...	...	...	9
A	134	All other defined diseases of early infancy	...	...	...	...	...	33
A	135	Ill-defined diseases peculiar to early infancy, and immaturity, unqualified	...	...	...	...	...	123
A	136	Senility without mention of psychosis	...	...	...	...	...	12
A	137	Ill-defined and unknown causes or morbidity and mortality	...	...	...	...	...	740
AE	138	Motor vehicle accidents	...	...	...	...	...	443
AE	139	Other transport accidents	...	...	...	...	...	40
AE	140	Accidental poisoning	...	...	...	...	...	107
AE	141	Accidental falls	...	...	...	...	...	742
AE	142	Accidents caused by machinery	...	...	...	...	...	115
AE	143	Accidents caused by fire and explosion of combustible material	...	...	...	...	...	72
AE	144	Accidents caused by hot substances, corrosive liquids, steam, and radiation	...	...	...	...	...	89
AE	145	Accidents caused by firearms	...	...	...	...	...	63
AE	146	Accidental drowning and submersion	...	...	...	...	...	16
AE	147	All other accidental causes	...	...	...	...	...	1,547
AE	148	Suicide and self-inflicted injury	...	...	...	...	...	20
AE	149	Homicide and injury purposely inflicted by other persons (not in war)	...	...	...	...	...	61
AE	150	Injury resulting from operations of war	...	...	...	...	...	—
AN	138	Fracture of skull	...	...	...	...	...	62
AN	139	Fracture of spine and trunk	...	...	...	...	...	86
AN	140	Fracture of limbs	...	...	...	...	...	740
AN	141	Dislocation without fracture	...	...	...	...	...	59
AN	142	Sprains and strains of joints and adjacent muscles	...	...	...	...	...	102

									Cases
AN	143	Head injury (excluding fracture)	...	...	...	...	...	252
AN	144	Internal injury of chest, abdomen, and pelvis	...	...	...	...	...	51
AN	145	Laceration and open wounds	...	...	...	...	...	1,384
AN	146	Superficial injury, contusion and crushing with intact skin surface	...	...	...	...	...	329
AN	147	Effect of foreign body entering through orifice	...	...	...	...	...	97
AN	148	Burns	...	...	...	...	...	201
AN	149	Effect of poisons	154	
AN	150	All other unspecified effects of external causes	115	
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Total								...	30,380

OUT-PATIENT MORBIDITY RETURN 1966

<i>International List Classifica- tion Number</i>	<i>Disease or Condition</i>	<i>No. of cases treated in Government Hospitals and Dispensaries</i>	<i>No. of cases treated in Non- Government Hospitals and Dispensaries</i>	<i>Total</i>
001—008	Tuberculosis of respiratory system	1,367	106	1,473
010—019	Tuberculosis-all other forms	298	50	348
020—029	Syphilis	38	—	38
030—035	Gonorrhoea	1,067	55	1,122
040—042	Typhoid and paratyphoid fevers and other Salmonella infections	129	78	207
045—048	Dysentery, all forms	5,377	503	5,880
055	Diphtheria	278	13	291
056	Whooping Cough	1,039	472	1,511
060	Leprosy	20	1	21
061	Tetanus	16	14	30
073	Yaws	638	6	644
080—081	Acute Poliomyelitis and its late effects	7	4	11
085	Measles	2,574	38	2,612
087	Chickenpox	1,758	146	1,904
089	Mumps	663	64	727
095	Trachoma	290	10	300
110—117	Malaria	256	1	257
127	Filariasis	929	19	948
123—130	Worm Infestations	65,035	4,275	69,310
135	Scabies	9,039	383	9,422
036—138	All other diseases classed as infective or parasitic including fevers of unknown origin	34,914	2,514	37,428
140—239	Neoplasms (Tumours)	488	50	538
240—245	Allergic Disorders (asthma, urticaria)	15,522	1,367	16,889
250—254	Diseases of Thyroid	624	202	826
260	Diabetes mellitus	263	7	270
280—286	Avitaminosis and other deficiency states... ..	30,798	1,412	32,210
290—293	Anaemias	25,291	1,033	26,324
300—318	Mental Disorders	391	30	421
370	Conjunctivitis	21,559	1,001	22,551
371—388	Other diseases of eye	8,114	447	8,561
389	Blindness	26	3	29
390—398	Diseases of ear	16,815	1,073	17,888
341—398	All other diseases of C.N.S. and sense organs	6,503	377	6,880
400—468	Diseases of the Heart and Blood Vessels	2,857	330	3,187
470	Common Cold	89,808	5,077	94,885
473	Tonsillitis, acute	18,544	1,065	19,609
480—483	Influenza	6,213	952	7,165
490—493	Pneumonia	2,272	693	2,965
500—502	Bronchitis	30,892	1,752	32,644
471—527	Other respiratory diseases	58,299	1,976	60,275
540—545	Diseases of the stomach	36,467	477	36,944
560—561	Hernia	300	25	325
571—764	Diarrhoea and Enteritis	68,893	3,717	72,610
530—578	Other diseases of digestive system	50,450	2,089	52,539
580—587	Diseases of the Liver, Gall-bladder and Pancreas	976	213	1,189
600—609	Diseases of urinary system (excluding Gonorrhoea see 030—035)	8,430	489	8,919
610—637 &	Diseases of genital organs	3,322	204	3,526
640—659	Complications of pregnancy	2,997	477	3,474
661—689	Boils, abscesses, cellulitis and other local skin infections	83,629	2,330	85,959
700—716	Other diseases of skin	43,730	2,699	46,429
720—727	Arthritis and Rheumatism	18,143	1,039	19,182
730—744	All other diseases of musculoskeletal system... ..	23,453	774	24,227
795	Diseases cause unknown	25,269	284	25,553

<i>International List Classifica- tion Number</i>	<i>Disease or Condition</i>	<i>No. of cases treated in Government Hospitals and Dispensaries</i>	<i>No. of cases treated in Non- Government Hospitals and Dispensaries</i>	<i>Total</i>
E810—E845	Road accidents	1,093	60	1,153
E850—E858	Water transport accidents	174	2	176
E916	Accidents caused by fire	1,750	152	1,902
E800—E999	Other accidents	33,745	1,303	35,050
E870—E895	Poisonings	342	22	364
	Total ...	864,167	43,955	908,122

